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TIME-BUDGETS OF HUMAN BEHAVIOR

BY
PITIRIM A. SOROKIN
AND
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PREFACE

IT IS SAID that a proper perspective of human behavior should enable one to see life steadily and to see it whole. Undoubtedly this does not imply a concern with the daily minutiae of existence, but in tracing the bolder designs in the fabric of life one may easily lose sight of the multitudinous strands of which it is woven. Seldom has any one bothered to make a detailed examination of all the activities with which people fill their time and to keep a record of them day after day for twenty-four-hour periods.

Of what specific activities does the whole of human behavior consist? What is the succession of activities, and what are the sex-age-occupation-education differences in the content and duration of behavior by twenty-four-hour intervals? Such is the first set of problems with which this monograph deals in an observational and somewhat experimental way.

If one can solve these problems with some validity and precision, another set of problems arises. What are the motives of each of these activities, and how are they related to the whole pattern of human behavior? For such a specific act as eating or going to the movies, for example, one may question an identity of motives among various persons or a constancy of motives within the same person. It should be interesting to note the dominant or plural motives of the principal individual activities, how they fluctuate from period to period, from person to person, between the sexes and the various age-groups. Which of all the motives are particularly frequent and lasting and in this sense most influential? Such is the second set of problems which occurs.

The third set is made up of problems pertaining to social contact, association, and groups. Some of the activities are performed by the single individual in solitude, whereas others are enacted in the presence of other persons. What are the quantitative and the qualitative aspects of such behavior? For

activity which takes place in the presence of one or more persons it will be noted who these persons are — whether or not they are friends, family members, business associates, neighbors, relatives, strangers, and so on. How much and to what extent does an individual stay with each of such groups or under its influences? These basic problems will be given a sociological treatment.

Finally, there is the question of prediction. The extent to which an individual can predict his own activities a day, two days, a week, and a month in advance will be noted. Are there some uniform differences in accuracy of prediction between the sexes, different age-groups, different educational, occupational, and religious groups? On sunny and rainy days? What is the relationship between the possibility of an accurate prediction of human behavior and social processes? Such is the fourth set of problems to be dealt with in this work.

These problems are approached neither speculatively nor theoretically. Likewise, the survey and analysis of existing literature are only incidental to the major purpose. *Our primary objective was an inductive and experimental investigation of a set of facts in the context of actual behavior, activities, and prediction of some one hundred human beings as observed and recorded in detail (with the help of their own records) from day to day, during several weeks.* The minutest details were noted, and as a result some 10,000 factual records — most of them made almost immediately after the activity or motivation took place — were obtained. The substance of this monograph is derived from these records. They have been carefully studied, statistically “processed” into several hundred tables, and the results given in non-tabular form in this work.¹

Since the problems with which we are concerned have received little inductive study, the literature of this type is comparatively limited. For this reason, in addition to the fact that the material with which the present authors worked is possibly

¹ Though all the important quantitative data are summarized in this study, more than two hundred tables are accessible for further use; they may be secured from the authors or from the Sociology Library of Harvard University.

the most extensive, quantitatively, and the most reliable and detailed, qualitatively, that has been gathered so far, this monograph gives only a very summary treatment of prior studies. Attention is centered almost exclusively on the presentation of results obtained from the present investigation.

In 1920-21 the senior author began a similar investigation in Soviet Russia which was terminated by his banishment. In 1935 an opportunity to use large numbers of the white-collar unemployed in Massachusetts presented itself when the Works Progress Administration placed them at the disposal of the Department of Sociology for paid employment on a series of projects. Various members of the Department organized their projects, and the senior writer of this monograph took for his activity the series of problems which were begun in Soviet Russia but found their culmination in this country and in the present study. Academic duties and work on *Social and Cultural Dynamics* made it necessary to find an able assistant who could carry through under supervision not only many technical details but also the principles of the conceptual scheme. Such a collaborator and assistant was found in the person of Mr. Clarence Q. Berger, at that time an assistant and tutor in the Department of Sociology at Harvard. Mr. Berger proved himself so capable a collaborator in this task that he is to be regarded as co-author. He contributed a great deal to the enormous amount of technical work involved both by elaborating and improving many details and by adding his own share of thought and insight. For all of these reasons the work is the result of joint efforts.

Besides several persons to whom the authors are indebted for various forms of helpful advice, they express their thanks to the individuals of the group studied who sincerely and willingly kept their records from day to day and in this way were both the objects of and participants in the study. Furthermore, it is the enjoyable duty of the authors to acknowledge their indebtedness to the Harvard Committee on Research in the Social Sciences for financial aid rendered toward the completion of this undertaking; to Dr. Elizabeth W. Gilboy and

Dr. E. P. Hutchinson for constructive statistical advice and criticism; to Professors John D. Black and Carl C. Zimmerman for general criticism and other help rendered; to Logan Wilson and Mrs. M. Noble for correction of the English and the typing of the manuscript.

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Cambridge
January, 1939

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PART I

INTRODUCTORY



CHAPTER I

PROBLEMS AND MATERIALS STUDIED

HUMAN LIFE is an incessant stream of various activities, and from our daily experience we know what the main types of these activities are, how they are related to each other, and how much time each takes. This knowledge derived from our daily experience, though proximate, is far from being accurate and complete. It is very unsatisfactory in regard to many important problems involved, and only through a systematic observational and inductive study of these problems can we obtain much needed knowledge in this field.

The present investigation aims to supplement the knowledge of several aspects of human behavior and mental processes more accurately than has been done heretofore. Precisely, it deals with the following problems in the extensive field of human behavior:

1. What kind of activities occupy the individual's twenty-four hours?
2. How often is each activity repeated during the twenty-four hours?
3. How much time does each activity take?
4. What are the individual motives for each activity? Does the activity have one or several motives? Does the activity have the same or different motives with different individuals? And, *vice versa*, does the motive manifest itself in identical or different activities with different individuals, or with the same individual at different hours of the day?
5. What part of the twenty-four hours does an individual spend alone and what part with another individual or with groups? Who are these persons and groups? What activities cause the individual to spend his time with each of these? What is the length of time he lives and acts in association with each of these?

6. How accurately can an individual predict his behavior twenty-four hours, forty-eight hours, one week, and one month in advance?

7. Finally, what are the differences, if any, in all the above respects between individuals of different sexes and different ages? Are there any tangible and uniform variations in the above aspects of human behavior on different days of the week (Tuesday, Saturday, and Sunday)?

Such are the main problems of this study; their theoretical and practical importance is self-evident and needs no elaboration.

The material on which this study is based represents *a collection of systematic records of all activities and their aspects as kept by approximately one hundred individuals from day to day during a period of four weeks*. This indicates at once the *limitation* and the *value* of this material, as well as that of the conclusions derived. By *limitation* we mean that the conclusions arrived at on the basis of this material are directly valid *only in regard to these individuals* and that they cannot, with all their details, be extended to all other social groups and to mankind in general. Only indirectly, and only in their most essential features, do they have a bearing upon larger groups or universes of individuals. On the other hand, *the material represents, to the best of our knowledge, a comprehensive and continuous collection of records of human behavior and its activities from day to day during four weeks*. In all these respects it probably is more thorough and consists of a larger body of data in this field than any previously collected. As we shall see in Chapter II, a few pioneering studies of somewhat similar nature have been made before, but, though these studies obtained a body of observational data concerning human activities, none equals in scope that collected for this study. Herein is one of the unquestionable values of our material.

Farther on, giving a reasonably accurate picture of the continuous stream of activities of these individuals and the groups they compose, the study supplies a valuable "brick" for constructing future studies of human behavior with applicability

to larger social groups and universes of individuals. If and when similar and better studies of other social groups are made, the investigators will have at their disposal an ever-increasing number of "motion-pictures" of the behavior and activities of various social groups; and with an increase of such "pictures" the comparative study of these problems will have bigger and better bases. Therefore, the comparative results can be extended to larger and larger social groups and bodies of individuals, until they show the generic similarities and uniformities in this field, side by side with specific variations for each group. In this sense, our study contributes to these future comparative studies.

At this point a more specific characterization of the material on which the study is based is in order. The material represents a collection of so-called time-budget records kept from day to day by a specified number of individuals for a certain period of time. Each of these individuals was given four different schedules—*A*, *B*, *C*, and *D*—to be filled out every day. Copies of these schedules with a brief comment are given in the appendices. Of these, the schedule *A*, after the collection of some eight hundred filled-out records, was found unsatisfactory and was discarded together with the eight hundred sheets.

The schedules *C*, *B*, and *D* were distributed weekly, in batches of seven. With the first week's batch each individual also was given the following sheets: (1) a letter explaining the purpose of the study, so couched as to appeal to the layman; (2) a supplementary information sheet requesting certain social data; (3) a sample of a correctly filled time schedule; and (4) a page of directions calling attention to certain difficulties to be avoided.

The social data called for included the following: (1) sex; (2) age; (3) marital status; (4) color; (5) religion; (6) degree of dependency; (7) nativity; (8) nativity of parents; (9) length of residence; (10) unemployment and/or employment record; (11) regular occupation; (12) present occupational status; (13) education; and (14) organizational interests.

In constructing the sample filled-time schedule, extreme care was taken to secure a minimum of suggestibility. Our interest

was in securing schedules which would truthfully and accurately reflect the behavior of the individuals studied. In order to accomplish this, it was thought best to apply no restrictions whatsoever to entries. In general, the directions cautioned against summarizing activities too briefly, gave all the specific directions, and urged as detailed accuracy as possible. All schedules were distributed and returned anonymously. The main schedules required an accurate recording of all the activities that occupied every twenty-four hours. The recording had to be done the same day and, if possible, immediately after a given activity was ended and a new one started. Each activity that lasted at least *five minutes* had to be recorded. In this respect the *time-activity unit* in our study is more microscopic than that used in many other studies. The schedules were intentionally left blank, with no prearranged classification of activities, such as has been used in some other studies. In this way the individuals were left complete freedom in the description of their activities, and a "movie record" of their behavior during each twenty-four-hour period was obtained.

Well over 100,000 daily schedules were distributed during the five months from May to November 1935. Of this number, about 10 per cent were returned. Of approximately 10,000 sheets filled, about one-half were discarded for certain reasons, such as: tendency to list time spent in round figures of a full hour or half-hour; failure to fill out more than a few days or one week; incorrect listing of the entries; illegibility; filling in of schedules on intermittent days only; obvious falsification or over-simplification of records; and the like. Then, as mentioned, about eight hundred daily records collected according to schedule A were discarded. In addition, we discarded a comparatively large number of records of the daily behavior of the individuals belonging to diverse social groups, such as artists, merchants, students, professionals, and the like. For comparative purposes such records are invaluable; yet the number of the individuals in each of these diverse social groups was small. As many of them kept the records only for a few days, their cards were cast out in order to base the study solely

on the records of the individuals who, as relief workers under the Works Progress Administration or as white-collared unemployed in Boston and its vicinity, represented a homogeneous group who kept the daily records for a long period of time.

This period ranged from two to eighteen weeks. From these entries we again discarded for one part of the study all records kept for less than four weeks, and for the other controls all those kept for less than two weeks. The period of four weeks was selected as the period for which each of the remaining individuals would be sampled. By taking such a period for all who kept their records four weeks or more, it was felt that certain advantages would be afforded. First, such a period is sufficiently long to give a typical "moving picture" of the behavior of each individual, free from the incidental deviations and peculiarities of this or that single day. Second, in this way we avoided the error of allowing some individuals unduly to weight the results — which would have been inevitable if the records of a few individuals had been kept for, let us say, eighteen weeks, while those of some others had been kept for a few days only. Third, such a procedure also eliminated the possibility of basing conclusions on a sampling of one or two "typical" days. In selecting four continuous weeks for study one is assured of a more normal picture of behavior than could be secured by taking the records of only a few days, or for different lengths of time for different individuals, as has been done in practically all other studies in the field. None of the latter has been able to report on the minutiae of human behavior over so long a period.

As a result of this discarding and sifting of the records, out of some 10,000 daily sheets collected only about 4,000 to 5,000 records are used in the study. The exact number of the records used in a study of each of the above problems, as well as that of the number of individuals who kept them, is indicated in the respective chapters.

These records reveal the following characteristics of the group studied. (For details see the appendices.) Its members are predominantly female, white, single, and of long residence in

or about the city of Boston. A fairly good sampling of the three main religious faiths has been secured in proportion to the figures available for the city of Boston. The age of the subjects is, on the average, between twenty and thirty years, with a minor portion below twenty and above thirty years. Few had worked previously, and those who had held positions in the past classified themselves for the most part as clerks. A high school education had been obtained by the majority, although some had attended college and others had no more than a grammar school education. The majority of cases indicated some "other schooling" which means either extension courses or night school. The economic situation was unfavorable for all.

The above gives an idea about the objectives and the material of the study. We omit a description of many purely technical and secondary matters here, since all the relevant specifications and data will be given further in subsequent chapters and in the appendices. The actual tables from which these data are taken are not reproduced in most cases. Instead, there are a few composite summary-tables in the appendix. The reasons for such a procedure are several. First, if the text gives the essential numerical data of the tables, a reproduction of the table does not add anything new but only duplicates unnecessarily the material of the text. Second, the total number of the tables computed for this study is well over three hundred. The mere printing of these — and some of them are complex — involves considerable expenditure, and since the essentials are given in the text it seems to be inadvisable. Third, three copies of the tables have been preserved by the authors and can be easily obtained by any one who needs to study them in detail.

Before proceeding to an analysis of the problems studied, let us briefly glance through the most important studies made by various investigators in our field. Such a survey of the main literature in the field will acquaint the reader with the problem as it stands today, with the variety of the attacks on it, with some of the limitations of the studies made, and with the desiderata future investigators of the problem should try to achieve.

CHAPTER II

A BRIEF SURVEY OF THE RELATED STUDIES

MEASUREMENT of behavior on a time continuum, commonly called the time-budget approach, with many variations has been in use for years. One of the earliest uses of such a budget schedule is Bevans' study of the expenditure of time by workmen. Bevans, whose study was carried on under the direction of Giddings at Columbia, himself indicates a belief that his is the first of this type to appear.¹ Detailed analysis of this early study will be made below. In general, the various types of studies utilizing the time-budget schedule method may be classified as follows: (1) studies of leisure-time expenditure; (2) studies of expenditure of time by farm homemakers; (3) studies of expenditure of time by unemployed and workmen; (4) studies of expenditure of time by college students; (5) use of the diary method.

1. *Studies of Leisure-Time Expenditure.* An example of such studies in recent years is the investigation of Lundberg and his associates of the use of leisure time in the county of Westchester, a district primarily serving as a suburb of New York City.² Leisure-time activities are examined largely by means of time-budget schedules, and further information is secured by the usual analysis of library circulation figures, paper and periodical circulation data, number of social organizations, degree of participation in social groups by residents, and other such techniques as have been thrust to the fore by various community studies.

From the point of view taken in this study, Lundberg's concentration upon leisure activities is open to criticism not on the basis of error but on the basis of failure to utilize the available

¹ George Esdras Bevans, *How Workingmen Spend Their Spare Time* (Columbia University Press: New York, 1913), p. 11.

² George A. Lundberg, Mirra Komarovsky and Alice Mary McInerney, *Leisure: A Suburban Study* (Columbia University Press: New York, 1934).

material to the utmost. Leisure is but one phase of social behavior. There are other phases of equal importance, without which an analysis of leisure time activities alone can have little meaning. Lundberg takes cognizance of this criticism with the statement: "The problems of leisure have meaning only against the background of life in general."³ Arguments may therefore be advanced in favor of an extension of Lundberg's plea for the scientific appraisal of leisure time, to the scientific appraisal of all social activities. Detailed information as to the manner in which the leisure-time activities are spent is of importance only in relation to the other activities of the individuals involved. The matter of objectives, however, is one that can only be discussed on the basis of personal scientific outlook, and we pass to much firmer ground in a consideration of the techniques employed by Lundberg.

The questionnaire used is similar to our own forms, although hardly so involved. The information collected includes the nature of the activity indulged in and the amount of time spent on the activity. Subjects were approached largely by mail, and complete anonymity was maintained. The schedules requested the listing of all leisure activities consuming thirty minutes or more during the day, and were filled out for the last typical week-day, Saturday, and Sunday prior to the receipt of the forms, or for a total of only three days. Records were secured from November to May in 1931-32 and 1932-33.⁴ A total of 4,460 person-days or sheets were returned, of which over one-half were submitted by high school and college students.⁵

Several criticisms may be made of this procedure. The first question that arises is whether limiting the information secured to items which involved thirty minutes or more gives a sufficiently accurate record. This eliminates the majority of periods of talking, phoning, smoking, and walking. As a result, such a high time minimum gives only crude data and permits the escape of many leisure activities of shorter duration. Likewise it does not give and cannot give a continuous picture of behavior.

³ George A. Lundberg, Mirra Komarovsky and Alice Mary McInerney, *Leisure: A Suburban Study*, p. 23.

⁴ *Ibid.*, pp. 374-375.

⁵ *Ibid.*, pp. 89 ff.

A further criticism of Lundberg's study lies in the fact that his schedules call for a list of the activities participated in during the last three days or, if the last three days were not typical, during periods before that. Obviously, one of the greatest difficulties encountered in the collection of time-budget schedules is the securing of true and accurate statements of behavior. The truthfulness of the statements may be checked under favorable conditions; the accuracy, however, largely depends upon the memory of the subject. Filling out the schedules immediately following the day's activities aids greatly in securing accurate records. Lundberg's request that his schedules be filled out for periods that were two, three, and sometimes more, days in the past, adds to the questionable accuracy of the statements entered.

A question may also be raised as to the adequacy of the days sampled in Lundberg's study. Specific directions were issued to the subjects to select typical weekdays, Saturdays, and Sundays for the listing of activities. Although it may be agreed that the typical behavior of individuals is of far greater importance than the atypical, yet the importance of the latter cannot be minimized. The specific instruction to eliminate the recording of any unusual days automatically eliminates them from study. The subjects of our monograph were studied over a period of four weeks (so far as their activities are concerned), with the result that it became evident that an even longer period is necessary to secure an adequate picture of their behavior. It therefore follows that the selection of three days of behavior is hardly adequate for the sampling of the behavior of an individual whether with reference to leisure-time activities or with reference to behavior in general.

Lastly, Lundberg weights all three days equally in securing his averages. In reality, if the weekdays are typical, they should receive a weighting of five, for the number of weekdays, whereas Saturday and Sunday should be counted only once. On these grounds, the averages which Lundberg secures may be questioned as being too high when shown for leisure activities, and as being too low when shown for items such as work and sleep.

His sampling, as stated above, is open to question in that over one-half of the subjects were either high school or college students. Their behavior, with the regular school routine and the greater physical activity characteristic of students, may hardly be considered behavior typical of the average resident of a community, as the work claims to some extent.

Although the subjects were asked to keep records for three typical days, the high school students kept them for one day only, while others kept records for seven days. No attempt, however, was made to take into consideration the unequal weighting thus given to those individuals who submitted records for seven days. The few individuals who did keep their records for one week or more were thus considered seven times for every single time the other individuals were considered.

The total number of individuals submitting records was 2,460, with a total of 4,460 person-days (records) available for analysis. The average number of daily records per person is therefore two days, and the question arises whether the material shows an equal number of weekdays, Saturdays, and Sundays, or whether two of the three days sampled have a greater weighting than the other day.

In passing to a consideration of the manner in which the subjects were requested to list the activities, it may be noted that where two or more activities were carried on during the thirty-minute periods, subjects were requested to list the most important one, thus eliminating the others from consideration. In our monograph, a large number of such double activities are recorded, and a special method of coding them had to be devised. Lundberg's method, however, eliminates all but the most important. While this may be consistent with his study of leisure time, it does indicate that his data are less refined than they might have been.

A final specific criticism of Lundberg deals with his classification of activities. A total of fourteen activity categories is utilized, nine leisure and five non-leisure. Such use of large activity categories results in a less precise picture than is adequate for purposes of refined analysis of behavior.

With reference to the technique employed by Lundberg it may be pointed out in conclusion that (1) time units of thirty minutes are too large; (2) extensive use of students prevents a true picture of the typical behavior of the county; (3) reliance on the memory of subjects over several days lessens the accuracy of the records; (4) disproportionate sampling of the days of the week is to be noted; (5) use of one weekday indicates an undue weighting of Saturdays and Sundays; (6) failure to secure listings of activities taking less than thirty minutes, and of those indicating more than one activity taking place simultaneously, reduces the refinement of the data; (7) individuals who turned in only one day's record are given disproportionate weighting in comparison with those who turned in seven days' records; (8) inability to tell what percentage of the schedules were for weekdays, for Saturdays, and for Sundays reflects on the claim that the study presents a typical picture. Despite this detailed criticism of the study, however, it is among the small number of its kind certainly one of the best and most significant.

A further study worthy of comment is that of E. L. Thorndike, who utilized previously conducted studies of time expenditure for the purpose of discovering the psychological wants satisfied in everyday behavior.⁹ The studies Thorndike draws upon are similar to those of the other "estimate type" schedules reviewed in this chapter. From our viewpoint, however, the most interesting aspect of his study is the portion in which he attempts to determine the wants satisfied by participation in various activities. Taking the various activities, Thorndike called upon a jury of psychologists to determine what wants, or want, each activity satisfied. The jury compiled a list of fifty-five wants satisfied by the various activities and proceeded theoretically to arrive at the importance of the wants in each type of activity. An example of the procedure is as follows: Mental activity, curiosity, and exploration (a classification somewhat similar to one which we shall later introduce) were

⁹E. L. Thorndike, "How We Spend Our Time and What We Spend It For," *Scientific Monthly*, May 1937.

assigned no percentage in "Personal Care," 0.3% in "Home Responsibility" activity, 6.7% of the activity "Automobile," 5.9% of the activity "Talking with Family," 11.6% of "Writing Letters," etc.

The attempt to determine the motivation of behavior in this manner is without question a definite advance over the purely theoretical approach which merely attempts to interpret human behavior as a whole. This method at least takes into consideration previously conducted empirical studies of behavior activities. Nonetheless, the method of allowing a jury of psychologists deductively to arrive at the motivations behind the activities is open to a great deal of question. As we shall later be in a position to show, the same activity may be performed at various times by the same individual as a result of totally different motivations. Each individual, again, may assign different motivations to the same activity, thus precluding the possibility of reaching a proper apportionment of motivations for any one group of activities. For these reasons the picture of the motivation given in this study is that of the psychologists but not necessarily that of the persons whose activities are studied. Therefore, the motivation part of the study remains largely speculative — "professionally speculative" — instead of being an accurate recording of the actual motives of the persons studied. The procedure reminds one of Pareto's method of assigning (speculatively) a certain residue to a certain derivation or derivatives given overtly. In both cases the procedures are neither observational, factual, nor inductive. Nevertheless, Dr. Thorndike's study is a definite step forward in this field and as such deserves quite positive commendation.

The valuable study of the leisure-time activities of the residents of Brunswick, Maine, by J. W. Riley offers several interesting points of comparison.⁷ Riley does not attempt to use time-budgets in his study of the formal leisure aspects of these residents over some seventy-five years but does utilize the newspaper of the town as a form of a time record. Checking

⁷ John W. Riley, Jr., "Social Leisure: Dynamics of Non-Family Group Leisure" (unpublished Ph.D. thesis on deposit in the Harvard University Library).

through the town's newspaper from 1857 to 1935, he tabulates the nature, life-span, and activities of various social groups, and their changes in the course of some seventy-five years. As an investigation of long-time changes in the formal non-family leisure activities of a whole town the study is unique and most valuable. The systematic analysis of the town's newspaper over this long period serves as a very efficient means of studying the formal aspects of leisure-time behavior. The newspaper, indeed, may act as a time-budget schedule for the activities of the town as an entity. The validity of this comparison is borne out by Riley's classification of activities and by the fact that he encountered many procedural difficulties similar to those met in this study.

Criticism of Riley's approach may be made in that he considers only a very small portion of the total behavior of the group, i.e., the non-family group leisure activities. Riley takes cognizance of this fact and elaborates plans for the completion of his work by a study of informal and individual aspects of leisure behavior, as well as a general study of the social structure of the town. Use of a personal questionnaire in approaching several of the organizationally prominent residents supplements the data secured from the newspaper.

Of other studies of leisure-time activities that undertaken by the National Recreation Association in May-August of 1933⁸ may be mentioned. The type of questionnaire used listed ninety-four leisure-time activities with instructions for the subject to indicate beside each whether he had taken part in it during the preceding year: A(1), once in a while; A(2), often; B(1), more than before; B(2), less than before; and C, would like to. Slightly over 5,000 records were received from the larger cities throughout the country, with an even sampling of the sexes.⁹ The conclusions list those activities checked by the largest number of people, those activities which appear to have been on the increase during the past year, those which appear to

⁸ National Recreation Association, *The Leisure Hours of 5,000 People* (New York, 1934).

⁹ *Ibid.*, pp. 5-6, and 72 ff.

have been on the wane, and those activities in which there was the greatest desire to participate.

This study, effective only for the purposes set by the Association, does not give any real analysis of the activities but merely calls for a checking of activities participated in. The answers are based largely upon subjective reasoning. As such it contributes little toward our problem.

2. *Studies of Expenditure of Time by Farm Homemakers.*

A series of studies dealing with the expenditure of time by farm women and homemakers has been carried out in a systematic fashion by the agricultural experiment stations of several states under the general supervision and direction of the Bureau of Home Economics of the United States Department of Agriculture.¹⁰ These studies conducted under the guidance of Kneeland and Stiebling are to be highly commended for the large amount of comparable data thus made available from different locales.

The objective of the studies has been to secure all available data on the activities of the farm homemakers, with a view to suggesting ways of easing their burden. As such, very little

¹⁰ Ina Z. Crawford, *The Use of Time by Farm Women*, Bull. No. 146, January 1927, Univ. of Idaho Agri. Exp. Sta.; Jessie F. Richardson, *The Use of Time by Rural Homemakers in Montana*, Bull. No. 271, February 1933, Montana State Agri. Exp. Sta.; Maud Wilson, *The Use of Time by Oregon Farm Homemakers*, Bull. No. 256, November 1929, Oregon State College Agri. Exp. Sta.; Margaret Whittemore and Bernice Nell, *Time Factors in the Business of Homemaking in Rhode Island*, Bull. No. 221, September 1929, Rhode Island State College Agri. Exp. Sta.; Inez F. Arnquist and Evelyn H. Roberts, *The Present Use of Work Time for Farm Homemakers*, Bull. No. 234, July 1929, State College of Washington Agri. Exp. Sta.; Ruth M. Clark and Greta Gray, *The Routine and Seasonal Work of Nebraska Farm Women*, Bull. No. 238, January 1930, Univ. of Nebraska Agri. Exp. Sta.; J. O. Rankin, *The Use of Time in Farm Homes*, Bull. No. 230, December 1928, Univ. of Nebraska Agri. Exp. Sta.; Mary E. Frayser, *The Use of Leisure in Selected Rural Areas of South Carolina*, Bull. No. 263, March 1930, South Carolina Agri. Exp. Sta.; U. S. Dep't of Agriculture, *Yearbook*, 1933, pp. 385-397; Day Monroe, et al., "Determination of Standards for the Establishment of Household Budgets for the Expenditure of Money, Time and Energy," *Journal of Home Economics*, vol. XXIV, December 1932, vol. XXV, January and February 1933; Hildegard Kneeland, "Homemaking in This Modern Age," *Journal of the American Association of University Women*, January 1934, and "Is the Modern Housewife a Lady of Leisure?," *Survey-Graphic*, June 1, 1929; and Rowena Schmidt Carpenter, "The Share of Family Members in Work and Leisure," Division of Cooperative Extension, U. S. Dep't of Agriculture (mimeographed).

attention has been paid to the possibilities of developing a technique for the general study of social behavior. Rather, as we shall later note, these studies have been detailed analyses of the one activity category which we characterize as "household activities — physical."

They are of considerable value, however, in that they illustrate the large amount of comparable material made available through time-budget schedules, and also indicate that the same technique may be utilized in different districts for studying different social groups under differing conditions.

Two types of schedules are used in the Agricultural Experiment Station studies. One schedule is similar to that used by Lundberg in which blanks are provided for the listing of the nature of the activity and for the length of time consumed in each activity. The other type of schedule presents two large circles whose circumference is split into one hundred and forty-four equal intervals, each interval representing five minutes. The total of each circumference is equal to twelve hours, one being marked "P.M.," and the other "A.M." The subjects are requested to draw radial lines from the center of the circle to the circumference, indicating the time spent on each activity, describing the activity within the angle thus formed. Both forms are suitable, although the latter presents difficulties in entering the notations for short activities because of lack of space for a complete description of each activity.

Directions for filling out the schedules seek to avoid obvious difficulties such as were encountered by Lundberg in his study. Activities are recorded in five-minute units. Where two activities are carried out at the same time, subjects are required to estimate the actual amount of time devoted to each, and to list each separately. This method is a decided improvement over Lundberg's treatment of double activities and that employed in similar studies.

In all cases, individuals were requested to keep records for seven days, covering one week. Subjects were asked to select a typical week and to list the entries for the day each night before retiring. Thus, these studies again present several ad-

vantages over that of Lundberg and associates. The consideration of the entire week gives a far more representative picture of the behavior of the individual than certain selected days. Nevertheless, even a week represents only one cycle of activities, and records for a period of several weeks would provide a far more adequate picture of the behavior of the subjects. It is true, of course, that, carrying this argument to its logical conclusion, records covering an entire year would be still more revealing. If it were possible to secure them—and this type of record is not easy to get for a long time and from many persons—such material would certainly be of exceptional value. However, in view of the difficulty of obtaining such material, a practical compromise becomes inevitable between the dictates of scientific accuracy and practical possibilities. The listing of activities daily is another point in which the studies of the Agricultural Experiment Stations may be said to be superior to that of Lundberg.

Lundberg distributed his questionnaires, and requested their return, anonymously. The records of the agricultural experiment stations ask that the name and addresses of the subject be listed. Mention is also frequently made of the fact that the researchers held conferences with the subjects relative to the filling out of the schedules. Therefore, it is possible, especially in view of the fact that the Agricultural Experiment Station studies were mainly carried out in rural areas, that any “non-approved” items of behavior were frequently omitted. Inclusion of the names on the records hardly adds to the value of the studies, and in all probability in many cases detracts from the veracity of the entries. It is the writers’ opinion that complete anonymity insures more accurate records of the intimate details of life.

The majority of the studies falling within this category sampled farm homemakers only, J. O. Rankin’s analysis being possibly the only one to include men and children as well.¹¹ Although the selection of farm homemakers as subjects is perfectly consistent with the objectives of the study, it does leave

¹¹ *Op. cit.*, p. 5.

out a group which unquestionably plays a large rôle in determining the behavior of farm women.

Many of the studies fail to distinguish between activities on Saturdays and Sundays and those on weekdays. While the same sharp distinctions as to behavior on weekdays and on weekends may not hold for rural groups as they do for urban groups, nevertheless the exact degree of variation can hardly be determined until analyses of the differences according to the day of the week are made.

Too frequently we note that the activities are grouped under a small number of activity categories in these studies. Crawford, for example, groups all of the specific entries under ten activity categories.¹² Despite the small number of general activity categories, in all of the studies we find a detailed breakdown of household activities.

Possibly one of the most pertinent criticisms of the Agricultural Experiment Station studies is that good statistical material has been faithfully presented in the tables with a totally insufficient analysis of the data. In many instances page after page of statistics are included with brief interpretations that but scratch the latent possibilities of the information contained in the tables.¹³ There is hardly sufficient difference between the various studies, methodologically, to warrant individual consideration.

3. *Studies of Expenditure of Time by Unemployed and Workingmen.* Three fairly typical studies may be included within the general category.¹⁴ It is interesting to note that, apart from Bevans' study, undertaken over two decades ago, this group is primarily concerned with the English workingman.

Bevans' questionnaire lists certain more important activities on the left of the sheet, and the days of the week on the top. Subjects are then asked to indicate in the proper boxes the

¹² *Op. cit.*, p. 3.

¹³ For an extreme case of this practice, see Wilson, *op. cit.*

¹⁴ Bevans, *op. cit.*; D. Caradog Jones, ed., *The Social Survey of Merseyside* (University Press of Liverpool: London, 1934), vol. III; and E. Wight Bakke, *The Unemployed Man: A Social Study* (E. P. Dutton: New York, 1934). The study of Zawadzki might also be treated within this section, but it is felt that it has greater significance for the section of this chapter dealing with diaries.

average number of hours per day spent on each of the activities listed. In addition to this information, a sheet includes supplementary questions, such as: "How many hours per day do you spend at labor unions?"; "At lodges?"; "At the bar?", etc. A further type of question asked was: "What do you usually do on Sundays?"¹⁵ Subjects were requested to fill out the questionnaires by agents who were paid in proportion to the number of completed schedules they returned. In many cases the investigators filled out the schedules for the subjects, and in other instances members of the family or relatives supplied the desired information. These procedures are, for obvious reasons, questionable and likely to vitiate the results to a considerable degree.

Several other difficulties in Bevans' technique may be pointed out. Requesting the subjects to estimate the average number of hours spent in the listed activities per day can only result, at best, in subjective estimates. They are subjective in that the trend of activities being indulged in at the time of filling out the schedule would unquestionably influence the estimate. It is also questionable whether the average individual has an accurate idea of the manner in which his daily time is spent. The listing of certain of the more important activities, and restricting the answers to these arbitrarily selected items, introduces the possibility of omitting certain activities which may be of greater import to some individuals.

The general questions included in Bevans' study, illustrations of which have been presented on the preceding page, tend to suggest a stereotyping of the evening's or weekend's activities. Our own study shows that the behavior of any one individual even in four weeks is highly variable. The adequacy of such questions is therefore very doubtful.

Having the schedules filled out by investigators deprives the subjects of anonymity, and unquestionably diminishes the accuracy of many answers, especially those with reference to time spent in the saloon, idling and playing cards. Bevans recognizes the weakness of his method, and incidentally foreshadows the technique utilized in this study, with the following

¹⁵ Bevans, *op. cit.*, p. 96.

statement: "It would have been ideal and much more valuable if a small group of men had agreed systematically to keep accurate accounts of hours . . . during one week."¹⁶

Despite the many aspects of Bevans' study which are open to criticism, the completed work is one of the most significant in the field, for, fully appreciating the social implications of the material he secured, he analyzes and interprets his data with great thoroughness. Bevans also attempts what no other study considered in this chapter has concerned itself with, namely, a picture of the amount of time spent in the company of the family, club members, and other social groups. Unfortunately, his data are not comparable with those secured in this study.

The Social Survey of Merseyside edited by D. Caradog Jones is in reality a community survey.¹⁷ The form of schedule used for the collection of data is similar to that employed by Bevans, with the same type of question calling for an estimate of how evenings and weekends are usually spent. The criticisms advanced of Bevans' technique may be applied to Jones's endeavor, with the one exception that Jones's study made provision for the anonymous distribution and return of the schedules.

A comparison of the results achieved by Bevans and Jones well illustrates the importance of objectives in any study. Bevans emerges with definite conclusions as to the social behavior of his subjects, whereas Jones — who is mainly interested in the leisure pursuits — is able to present less significant material on the total aspect of behavior.

Bakke, in studying the unemployed man of London, utilizes the time-budget schedule to secure a picture of the manner in which leisure time is spent. Unfortunately, he analyzes his material without presenting the statistics, and the only comments that may be made are with reference to the type of schedule used.

Bakke asked his subjects to fill out schedules similar to those

¹⁶ *Op. cit.*, p. 13.

¹⁷ It is included among studies of the unemployed and workingmen by virtue of the fact that the study was made during the depression and in an area mainly populated by unemployed workingmen.

used by Lundberg and by the Agricultural Experiment Station studies. Subjects were then requested to total their activities for each day (during one week) and to enter the figures beside certain activity categories printed on a supplementary card.¹⁸ The fact that the activities were selected by Bakke, and that the subjects were not given a definition of each activity raises the possibility of several errors. The listing of certain activity categories at once eliminates certain less prevalent activities from consideration, inasmuch as Bakke's list includes only the more popular activities. For the purposes of his study such a procedure is not objectionable, but for a continuous study of behavior its inadequacy is obvious.

4. *Studies of Expenditure of Time by College Students.* Several studies have been undertaken of the manner in which the college student spends his time.¹⁹ In fact, it is rapidly becoming true that college students are the most thoroughly understood of all groups, because of their constant utilization for purposes of experimentation and investigation. Of the several studies of expenditure of time by college students, that undertaken by the Vassar student government is easily the most comprehensive.

As in the other college surveys, the objective of the Vassar investigation is to determine the proportionate amounts of time that members of the institution spend on studying and recreation. The entire student body of Vassar College was sampled during the second semester of the academic year 1924-25. Each student was provided with a booklet in which provision was made for daily listings of the hours and fractions of hours spent on academic work, non-academic work, sleep, and exercise. Students were further instructed to fill the schedules out nightly, taking care not to make entries if several

¹⁸ *Op. cit.*, pp. 302-304.

¹⁹ Daniel Katz and Floyd H. Allport, *Students' Attitudes* (Syracuse, 1931); Merrydelle Gambrill, Katherine H. Pollak, Prall G. Bacon, Mary Connard, Janet H. Murray, and Ruth S. Perego, "Vassar College Time Survey," *Vassar Journal of Undergraduate Studies*, vol. 1 (1926); "Bryn Mawr Time Survey," *College News*, March 3, 1926; Alzada Comstock, "Time and the College Girl," *School and Society*, March 1925; and see the *Harvard Crimson*, Jan. 7, 1926, for a report of a time survey at the University of Chicago.

days had elapsed and indicating in the margin cases where the entries were only approximations.

In general, then, this study may be considered as an adaptation of the estimate schedule such as was used by Bevans and Jones, with the refinement that estimates are made for each day at the close of the day's activities. The broad categories used may be criticized, as may the use of the estimate type of entry. Notwithstanding this, the fact that the records were kept over a period of five months may justify the use of a simpler form of schedule than that used in the other studies. The lack of sufficient distinction between activities is revealed in the small amount of data as to the social behavior of the subjects emerging from the study. A refined analysis of the amount of time spent on each type of course is made, however, and yields important information with reference to the main objective of the study.

5. *Use of the Diary Method.* The diary method has been utilized in many instances for psychological, sociological, and historical research. A certain adaptation of the diary method approximates the time-budget schedule and may therefore be included in this survey of past treatments.²⁰

Zawadzki's interesting study is the outgrowth of a contest for the best autobiographies of unemployed in Poland. A total of fifty-seven authenticated autobiographies was finally accepted and analyzed. This method, although much cruder than a detailed itemizing of specific behavior from day to day, offers excellent possibilities for combining objectivity of approach with an understanding of the more subjective aspects of social behavior. It is not inconceivable that autobiographies written in accordance with certain simple directions could present material of outstanding value to sociology.

The other study of this nature of which the writers are aware is now being carried on by Myer Nimkoff at Bucknell University. Having been called upon on numerous occasions to aid in solving familial problems, Nimkoff noted keenly the lack

²⁰ Bohan Zawadzki, "The Psychological Consequences of Unemployment!" (mimeographed). Nimkoff's studies herein discussed have not as yet been published.

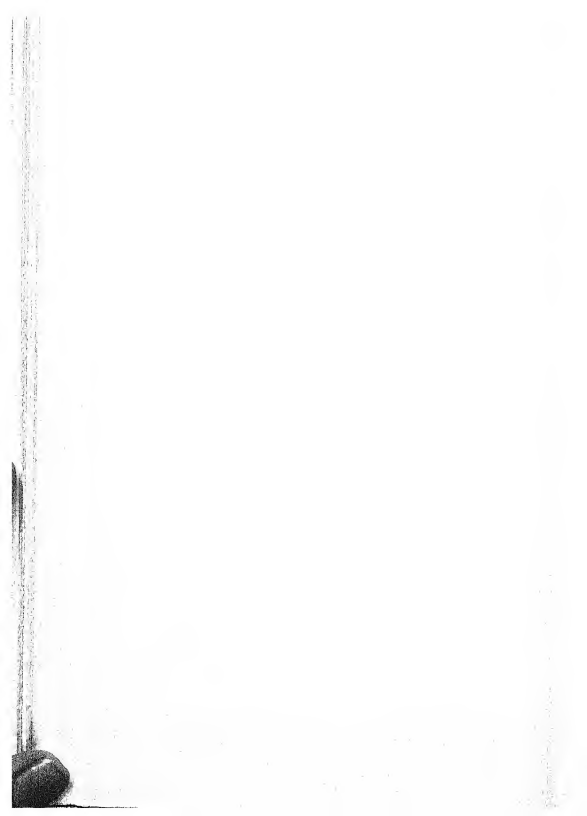
of definite factual material relating to the particular problems under consideration. The versions of the parties to a dispute not only varied from person to person, but the version of one person would vary from day to day. Nimkoff therefore stipulated that he would enter only into those cases in which the individuals involved would agree to keep a detailed day-to-day account of all behavior and conversations bearing upon their familial problems. Finding these of great value in his study of the cases, he further made certain requirements as to uniformity of material. He is at present analyzing this material for presentation.

This method appears to have some possibilities, despite the fact that the particular diaries which Nimkoff is getting are undoubtedly prejudiced. Disregarding the prejudiced content of the material, however, it has value as a record of behavior relating to one selected aspect. Detailed diaries kept by several individuals over a period of time would be of significance in attempting to understand that particular sphere of social behavior.

This survey gives an idea of the main types of the studies in the field, of the technical procedures used, and of the weak features of these techniques. It outlines the purposes of this study, the material on which it is based, and the procedures used. Let us turn now to a systematic presentation and analysis of the results obtained.

PART II .

STRUCTURE AND COMPOSITION OF HUMAN
BEHAVIOR



CHAPTER III

FIFTY-FIVE FORMS OF OVERT ACTIVITIES STUDIED

It is of interest to note the division, repetition, and degree of participation involved in the activities which compose the twenty-four-hour segment of human behavior. How many different activities does an individual engage in during a day? According to duration and frequency, and the presence or absence of certain kinds of preoccupations, what are the significant variations according to age, sex, and specified days of the week? Such are the questions to be dealt with in this chapter. It aims to give a special anatomy of human action, its structure, and composition in these terms. The analysis is made on the basis of the material collected; therefore the conclusions are applicable directly only to the group studied, but indirectly, with proper modifications, they may bear upon a much larger universe of individuals within our society and culture.

As has been said, there was no prearranged classification of activities in the schedules. The persons who filled out the schedules were free to make the entries in their own terms and characteristics. This procedure made for a greater variety of data, but at the same time it made classification more difficult. The classification had to be detailed; yet manageable; the numerous activities had to be summarized under headings which would be accurate as well as comprehensible psychologically and logically. Under these conditions no ideally perfect arrangement was possible. The following groupings represent, therefore, only a comparatively satisfactory working basis for the purposes of this study. All the activities were arranged under the fifty-five main headings given in the following alphabetical list: ¹

¹ In cases where one schedule listed "went to lecture" and another worded the same activity "at lecture" or "attended lecture," these entries were regarded as identical, and were entered as such without duplication. The individual

Active Arts and Crafts

Amateur acting, art modeling, attending meetings of dramatic groups, drawing, folk dancing, interpretative dancing, painting (artistic), photography, plays, writing stories, poems

Amusements

Attending amusement parks, at amusements, beach amusements, boat-riding, moonlight sailing, ride airplane, sightseeing, visiting ship

Attending Lectures, Concerts, etc.

Attend concerts, attend debates, forums, attend lectures, attend poster exhibition, exhibition, fashion show, visiting art or other museums

Auto-Riding (Pleasure)

Driving, put car in garage, ride, travel trips, truck ride

Cards

Card parties, cards and smoke, cards and talk, playing bridge, play cards, radio and cards, whist party, observe card game

Ceremonies

Cemetery, christening, class-day exercises, engagement party, funeral, funeral service, grade lot in cemetery, graduation exercises, observe wedding, wake, wedding

Civic Activities

Political activities, vote, attend political meeting

Correspondence

Correspondence, read letters, read mail, typed invitations, typed letters, writing letters

Courting

Courting, date, entertained boy friend alone, kiss, said goodnight to girl or boy friend, spoon, went out with girl or boy friend

Dancing

Attending community or club dances, attending dance halls, dancing, dance and talk, parties (dancing)

Entertaining

Company, entertaining others, evening calls

Errands

Cash check, deliver something, deposit check, errand, mail letters, mail packages, pay bills, receive pay, went to get pay, went to store, went to store to buy something

Exercise

Calisthenics, gymnasium, exercise

Gardening

Care of garden, caring for home grounds, cut hedge, digging greens, gathered bouquet, pick flowers, plant garden, plant flower seeds,

activities are listed just as they were phrased by the persons filling out the schedules, and for this reason there is within the same category a grammatical disharmony of tense, construction, parallelism, and so on.

plucked flowers, prepared garden for planting, raking leaves, re-potting plants, water garden, weed garden, worked in garden, watered flowers

Health

Dentist, doctor, hospital, illness, medical treatment, was sick (in bed)

Hobbies

Caring for pets, collecting newspaper clippings, nature study, paste in scrap book, played with dog, snapshots, stamp collecting, take pictures, took dog for walk, took kittens for airing

Household Activities — Personal

Attend to mother, bathed child, care for children, care for someone, change child's clothing, gave medicine, help children with studies, help sick cousin, helped others, massage mother, prepared child for bed, stayed with sick mother, took care of baby, took child for walk

Household Activities — Physical

Arranged flowers, baking, build fire, chamber work, cleaned house, cleaned rugs, cleaned table, cooking, did chores, did housework, dust, frosted cake, general housework, hang out clothes, help clean up, help mother with meals, home decorating, iron clothes, iron my dress, labelling cans, laundering clothes, laundry, light heater, make beds, move, open windows, pack a box, pack bags or suitcase, pack a lunch, pick up odds and ends, prepare meal, put groceries away, soaked clothes, unpack clothes, usual duties, wash and iron, wash clothes, wash curtains, wash dishes, wash dress, wash floors, wash lingerie, wrap package, wash stockings, wash windows

Idling

Contemplating, day dreaming, hang around, lie awake in bed, lie down on bed, lie on couch, loafing, looking through windows, meditating, on the roof, recess, relax, rest, rest and talk, sat down, sat in hammock, sat in front of house, sat in house, sat in park, sat on piazza, sat on steps, sitting, sunbath on roof, thought, waited, watched children, watch shadows of early morning, relief, sat marveling at clouds

Indoor Games (other than cards)

Bowling, chess or checkers club, crossword puzzles, indoor quiet organ play, play beano, pool, pool billiards, solve cartoons

Meals

Dine, eat, eat and smoke, had a bite, lunch, meal and talk, meal with some one, breakfast, dinner, supper

Men's Household Activities

Build chicken shelter, auto repair, carpentry, carry fuel, chores, fix car, fixed door bell, helped plumber, janitor work, odd jobs, painted piazza and steps, paint furniture, painting, picked apples, poultry raising, radio and auto repair, repair jobs, shoe repair, splitting wood, tend furnace, washed car

Miscellaneous

Check account book, fill fountain pen, fill out questionnaire, intelligence test (took), make above entries, make out shopping list, work-

ing on budget, write time schedule, wrote this thing, wrote time records

Musical Activities

Attending meetings of musical organizations, play piano, playing in bands, orchestra or other groups, rehearse for chorus, rehearse for operetta, singing in choral group, singing in community group, singing in family group

Observing Games or Spectacles

Auto race, baseball game, betting (horses, dogs), circus, dog races, football, horse races, observe animals in park, observe ball game, observe dance at home, pageant (saw), watch ball game, watch fire, watch parade, watch tennis

Organized Indoor Sports

Basketball, play ping pong, play squash

Organized Outdoor Sports

Athletics, playing baseball, playing croquet, playing golf, playing horse-shoes, playing soccer, playing tennis, playing volley ball, play ball, tennis

Personal Care

Bathe, bed, brush hair, brush teeth, change clothes, clean ties, comb hair, cream face, curl hair, disrobe, dress, dried hair, evening toilet, fixed clothes, get ready to go out, make-up, manicure nails, marcel hair, morning ablutions, morning preparations, morning toilet, pack bags, personal care and talk, personal duty, prepare for bed, prepare clothes for next day, preparation for night, prepared toilet, press clothes, retiring, set hair, shampoo hair, shave, shine shoes, shower, smoke and wash, undressed, unpack bags, wash, wash hair, went to bed

Phoning

Telephone, received calls

Picnics

Built fire on beach, camping, outing, picnic, picnicking, tent take down

Play

Bathing, beach, beach lounging, in water, on beach, pets (play with), play and talk, recreation, swimming

Play with Children

Play with child, read stories to child, took child to park, with friends' child

Radio

Listen to radio, listen to radio and smoke

Reading (unspecified)

Read, radio and read, and read and rest

Reading Books

Library, reading at library, read books, read fiction, read mystery story (if source not given), read story (if source not given), select books at library, took out books

Reading Magazines and Papers

Look over paper, read magazine, read newspaper, read news

Refreshments

Ate a snack, beer, cocktail, ice cream, refreshments, soda (drink)

Religious Activities

Care of altar, church and religious instruction, church and work, devotions, discuss parish work, prayers, preside at vestry meeting, read Bible, teach Sunday school, went to church

School

Attending day school, attending evening school

Shopping

Bought something, drug store—stamps, exchange purchases, fit clothes, go to store, house hunting, listening to demonstration, purchased something, returned articles, shopping, shop and walk, visit department store, went shopping

Sleep

Nap, sleep, went to sleep

Smoking

Cigarette, smoke

Social Activities

Attend conventions, club, dramatic stunts, lodge meetings, parties, prepared club report, social activity of church group, social activity of political group, social activity of social group, taking part in parent-teacher act, tea

Study

Did some shorthand, discussion group, play reading and study groups, practice shorthand, read—educational, reading for knowledge, serious study, study course, taking part in debate

Talking

Admire friend's gifts, argument, chat, convention, friend's call, joke, listen to someone talk, meet someone

Theatre

At radio station, heard amateur performance, movies, musical comedy, see a play, show

Transportation

Arrive somewhere, bus, car, got on street car, got on train, taxi, train, subway or surface cars, went in town

*Unknown**Unorganized Outdoor Play*

Archery, bicycling, boating, canoeing, coasting, climbed hill, fishing, hiking, hunting, horseback ride, ice skating, outdoor exercise, roller skating, rowing, sail, skating

Visiting

Visiting, visiting hospital, visiting with friends

Walking (to a destination)

Home, journeyed home, took child somewhere

Walking (Pleasure)

Exercise, public garden, stroll, went for a walk

With Family

Spending time with family, spending time with wife

Women's Indoor Activities

Cut out blouse, cut out patterns, darning, fancy needlework, fancy work, hand work, knitting, mend clothes, millinery, remodeled a dress, sewing, stamping designs for embroidery, weaving

Work

Address groups, business appointments, business call, candled eggs, care for animals, care of chickens, care of domestic animals, conference, figuring, interpolate, interview, job hunting, straighten desk, switch off lights, talk and work, waitress at Pops concert, work

The reader can readily surmise from the foregoing items that classification was made principally according to the overt or socially behavioristic nature of the activities. Only in some of the classes, such as in "walking for pleasure" and "walking" as a means of locomotion to a destination, does the question of inner motivation arise. Questions of motivation do enter into the classification, but these are reserved for discussion in subsequent chapters in which certain meaningful aspects are taken separately and studied in relation to the overt nature of action.

One can note further that the classification does not aim to be too rigorously logical, or to make explicit a specific *fundamentum divisionis*. Implicitly, however, there is such a *fundamentum* in the broad and socially overt nature of the activities. For empirical purposes the arrangement is detailed and comprehensible, but in addition it is flexible enough to permit regrouping of these fifty-five classes into different, and into larger divisions if necessary. This latter consideration is particularly important in this study.

A cursory examination of the fifty-five activities outlined shows that they fall into the following larger classes:

1. *Activities directly satisfying physiological needs:* sleeping, eating, exercising, caring for person, walking (for pleasure and exercise), participating in partly organized indoor and outdoor sports.

2. *Activities of economic and chore nature* performed less for their own sake than as a means to the satisfaction of physiological and other needs and ends. Characteristic of these are work, walking and transportation to reach a place of destination or work; errands; women's indoor activities involving household labor; men's household tasks; shopping, and so on.

3. *Societal activities* due to the interaction of the individual with others, to the duties imposed by social life, to altruistic reasons, to the social rôle within the family or friendship groups, to personal acts of an altruistic nature; ceremonial and civic activities; visiting; entertaining and being entertained; attending to correspondence; telephoning; conversing; caring for and playing with children.

4. *Religious activities*: attending services and engaging in ceremonies.

5. *Intellectual activities*: attending lectures, reading (miscellaneous books, magazines, etc.), studying, going to school, listening to the radio, and talking (partly intellectual).

6. *Artistic activities*: active participation in arts and crafts, attending concerts and visiting art museums, going to the theatre, listening to certain radio programs, taking part in singing and instrumental music.

7. *Love and courtship activities*: "courting," dancing, etc.

8. *Miscellaneous pleasurable activities*: amusements such as auto-riding, playing cards, entertaining, engaging in hobbies, idling, gardening (as a pastime), taking part in physical sports and game, witnessing spectacles, picnicking, playing, drinking and eating refreshments, smoking, and so on.

Thus all the fifty-five classes may be placed under these eight general categories. Because of the dissimilarities of motivation, some of the activities belong in several of the main groups; hence there is an inevitable overlapping. Such an overlapping and duplicate listing, nonetheless, is both necessary and useful for our purposes and in no way vitiates the conclusions concerning them. Now let us turn to the study of these activities from the points of view mentioned in this chapter.

CHAPTER IV

PHYSIOLOGICAL AND ECONOMIC ACTIVITIES

1. *Activities Satisfying Physiological Needs. Sleeping.* Among the activities satisfying physiological needs, sleeping takes first place from the standpoint of time devoted to it. From the total 3,476 persons' daily records, it was ascertained that sleep took 1,753,615 minutes, an average of 504.5 minutes or 8 hours and 24 minutes per day per participant.¹ Excluding afternoon naps taken by some of the members of the group, the average per person was 8 hours and 22 minutes. Though individual differences in requirement of sleep ranged from 3 hours to 14 hours and 20 minutes, the majority of persons spent between 7 and 11 hours sleeping.

In our group *women slept 29 minutes longer than men* (520.8 and 491.6 minutes respectively). No consistent difference was noticeable in the requirement of sleep for the various age-groups (ranging from 17 to over 50 years of age). The average for the ages 17-20 years and 50 or more is the same (522 minutes per day per person). On Sundays our group slept 569 minutes — much longer than on Saturdays (524 minutes) and weekdays (497.8 minutes was the average for Tuesday, which was taken as a typical weekday).

These results seem to agree with what we already know from daily observation and behavior. Though on some days, and with certain individuals, there is a considerable deviation from these norms (due to some peculiar or extraordinary condition), the differences between the sexes, the age-groups, and the days of the week are comparatively small. Also, the results do not differ much from those of other investigators, for, despite social and cultural differences, Lindstrom found the average for sleep to be 492 minutes, and Wilson found it to be 540 minutes.

¹ See the statistical Appendix for the method of deriving these averages. All figures are in terms of participants unless otherwise stated.

This means that *sleep is an inelastic activity (to use a term from economics) little capable of either great reduction or great expansion, incidental and abnormal individual cases excepted.* Social and other conditions may shift the time of sleep or its frequency during the day, but, being primarily a result of the physiological processes of an organism, duration of sleep can be changed by social conditions only within comparatively narrow limits. For one day or a few days, in exceptional or pathological conditions, an individual may sleep little or not at all, or, as in some sicknesses, he may be in a state of sleep (coma) for several days. As a rule, however, a person needs his eight hours of sleep and usually gets it. Sleep occupies the first place among all the activities because it takes about one-third of one's whole time. Working, however, may take as large a portion of time, but working for eight or more hours usually represents a combination of two or more diverse activities. Also, it occupies little or no time in the very young and very old age-groups and for these reasons it is a less universal activity than sleeping.

Eating. Though the activity of eating may be an expression of several different motives, in its essential nature it satisfies a fundamental physiological need and is therefore put into this class. By eating we mean two or three standardized periods of daily eating. Refreshments, representing such entries as sodas, ice-cream, midnight snacks, etc., are not so much physiologically necessary as socially and psychologically attractive, pleasure-giving activities, and as such they are put into the class of "Various Pleasurable Activities."

Of the total 3,455 day-records given, 309,860 minutes or 1 hour and 29.7 minutes was the average time taken for eating per day per participant, and 1 hour 29.2 minutes each day for the whole group. Eighty-three per cent of the records showed an average of three meals for the twenty-four hours; 13.3 per cent, two meals, 1.7 per cent, one meal; the remaining part, four to ten meals. The average for our group was 2.9 meals.

Breakfast usually took 15 to 20 minutes; lunch rarely took the entire noon hour, as the persons studied hurried through it in

order to run various errands or to go from eating place to office; supper, however, often took an entire hour or nearly that long.

The individual variation in time for this activity was great, ranging from 20 minutes to 2 hours and more. Incidentally, the longest time spent was by those who had three or four meals a day, while those who had only one, and especially those who had nine meals a day (snatching what they could get), spent the least amount of time — 20 to 40 minutes per day.

Men spent a few more minutes for this activity (93 minutes) than did women (89.2). Of the age-groups, the group from 25 to 29 years spent the most time (109.1 minutes); the group from 21 to 24, the least time (82.8 minutes); while the remaining age-groups fluctuated between these extremes. On Sundays, the group spent slightly more time (95.3 minutes) than on Saturdays (88.3) or on Tuesdays (87.6).

These figures do not deviate much from those obtained by Lundberg, and Jones, though they show somewhat more time for eating. Lindstrom's data for the rural people are somewhat lower than ours and those of Lundberg and Jones. This means that viewed from the standpoint of time spent, as well as the number of eating times per day, the *eating activity is more elastic and flexible than sleep*. Some people spend only twenty minutes per day; others, two hours or more. If "refreshments" and "social dinners" and "epicurean eating" are included, then the time spent in this activity becomes still more considerable and often reaches three or more hours per day. The same is true of the number of meals per day. Even in our sample it fluctuated from one meal to ten per day. All this means that in these aspects (not to mention many others outside of this study) the eating activity depends upon, and is conditioned greatly by, social and cultural conditions. If these are different for different persons and groups, the time spent and the number of meals may also vary considerably. In this sense it is freer than sleep from the rigid control of biological forces.²

²For economics, from the standpoint of expenditure and income, expenses for food are one of the least elastic. From the time-budget viewpoint, food-consumption activity is, as we see, one of the comparatively elastic activities.

Health. Sickness and the resulting activity of a doctor's visit, or of staying in bed is sporadic in its nature and occurs only in several instances during the time period checked. In our sample, for four weeks of recorded behavior, we have only 107 day-records, or about 2.5 to 3 per cent of such activity in all the cases. In this sense these activities are, in contrast to sleeping and eating, neither universal nor regular for every day. Consequently, the average time spent per person each day for the whole group is very low, 2.8 minutes.

For 107 cases the average time spent in these activities is 91.4 minutes per day per participant, ranging in individual cases from a few minutes up to several hours or even days. But when a person is in bed all the twenty-four hours part of his time is still spent in sleeping, eating, reading, talking, and other activities that go on simultaneously with his sickness as parallel activities. Of such cases, 92.9 per cent carried on these activities only once in twenty-four hours, the rest from two to seven times per day.

Men, by about 4 per cent, engaged in this activity more than women (measured by the number of person-day cases). This is corroborated by the fact that men in our sample spent 11 minutes more in these activities than women. The maximum, 106.4 minutes per day, is found in the age-group 45 to 49 years; the minimum, 19.8 minutes, in the age-group 30 to 34 years; otherwise, no consistent trend is noticeable between 17 and 50 years and over. Sundays give the maximum time, 218 minutes, followed by Saturday, 143 minutes. Tuesday, as a typical weekday, gives the minimum of 54 minutes spent in these activities. The reasons for this difference are obvious: because of the conditions of our society, working persons, except in cases of grave illness, have more time to take care of their health on Sunday and Saturday than on weekdays.

Though sickness is a result of biological as well as social conditions, health activities show themselves to be exceedingly variable. In the behavior of some individuals they occupy

scarcely any time for a certain period, and where they are present they show enormous variability.

Exercise. Like health activities, exercise is neither a universal nor a regular daily activity. Of some 3,400 day-records for sleeping, eating, and other similar activities, we have only 52 day-records or some 1.5 per cent of all cases. This means that only a small fraction of individuals in our sample carry on these activities, and even not all these for every day. The group average of time spent daily per person in the whole group is only 0.2 minutes. On the average, 14 minutes is spent in exercise per day per participant in these cases. Men engaged in it about twenty times more frequently than women. But men spent on the average 7.6 minutes, and women 43.9 minutes. The enormous difference is probably incidental and not representative for larger groups. Younger age-groups, from 17 to 24 years old, spent notably less time than the older groups. The explanation probably lies in the fact that the younger age-groups get their exercise in various sports and athletic activities (see further). Sundays and Saturdays show a longer period (18 and 15 minutes) given over to exercise than Tuesdays (7 minutes).

Personal Care. Miscellaneous activities of this group consist in taking care of health, body, physical comfort, and in satisfying various physiological needs. There is also an element of "vanity type" in some of the activities, but it is subordinate to other more important purposes. The care of the person is a universal and daily activity. On the average, 77.7 minutes are spent daily in it per participant, and 76 minutes per day for each person in the group. Fifty-five per cent of all persons perform it three or four times a day; 22 per cent twice daily; and the rest five or more times a day. Both sexes have an equal incidence of this activity, but women spent 81 minutes, and men, 60 minutes per day. Considering that our female group consists mainly of young women and girls, the difference appears to be understandable. For the same reason the younger age-groups, 17 to 24 years, of both sexes, spent more time (about 90 minutes) than the older age-groups (59 to 65 minutes for

the ages 40 to 50). Again, for obvious reasons, on Sundays and Saturdays more time is given to these activities (82 minutes) than on Tuesdays (72 minutes). Our average time (77 minutes) for this class of activities occupies a middle position between the figures 30 to 60 minutes (Lundberg's study) and 120 minutes (Wilson's study). Since our group contains a large number of young women, who spend more time in this activity than men, and also a very large number of young age-groups of both sexes, it is plain why our average is higher than those in other studies with different age and sex groups. On the other hand, 120 minutes of Wilson's study probably includes some of the activities put by our and other studies into a different group than "personal care activities."

Other activities, like sport, walking for pleasure, and the like, which in part at least belong to the group of activities of this general class, will be analyzed in other activity categories.

2. *Economic or Chore-Type Activities. Work.* By work a financially remunerative activity in which a person works for somebody else is meant. Such work is distinguished from hobbies and household activities performed by a person for himself. Since our group is of working age, and during this study were at least partly occupied, the work activity was present in their behavior in the majority of cases and occupied on the average 332.2 minutes or five and a half hours per day per participant, and 206.7 minutes per day per person for the entire group.

As both sexes studied were working at the time of the study, both participated equally. Males of the group worked longer (371 minutes) than females (322 minutes). There is no consistent difference in the length of time between various age-groups. If there are slight irregular differences they represent mainly the result of "chats" and "smoking" and similar interruptions of the work activity. The average frequency of the work per day is 1.9 periods. This means a regular interruption of the work by the lunch hour. On Saturdays the subjects worked regularly only up to lunch time. For these reasons the regular weekday, Tuesday, gives 344.6 minutes of work activity,

while Saturday gives only 235.4 minutes. Some of the members worked even on Sunday with an average of 155.1 minutes per day.

By its nature the work activity in our society is from one point of view exceedingly elastic and from another very inelastic. Biologically neither its nature nor its length is conditioned. It is elastic in the sense that theoretically a person capable of working may or may not actually work in a financially remunerative way. Some persons can afford to be without work. But social and economic reasons make work a necessity for most people. The same often conditions determine whether work is available. Finally, regardless of the wishes of the person employed, socio-cultural conditions determine the length of the working time and several other characteristics of it. Hence, with the exception of the biologically incapable (children, old people, the sick, and the like), work is an elastic activity biologically; but socio-economically it has several aspects of inelasticity determined by the existing socio-economic and cultural regime.

For the groups which are capable and actually have work, *it is one of the most time-consuming activities, occupying possibly the second place, the first being taken by sleep.* In contradistinction to sleep, work is rather imposed upon them than taken willingly by most of the workers. In this sense it is a means rather than an end in itself. Activities like hobbies, freely chosen and aspired to by an individual, are in a quite different category from work in the above sense of the word. Finally, there are cases where work and hobby coincide. But for the bulk of the people such coincidence is an ideal rather than a reality.

Miscellaneous. Our group of activities united under this name consists of various odds and ends, such as taking intelligence test, checking account book, making shopping list, or filling out schedules. Most of the members of the group included the last item in *Work*, but few seem to single it out and put it separately. All in all, most of these diverse activities are either a part of work or some activity connected with it

and economic activities generally. Therefore it is convenient to summarize at this point.

Only about 6 per cent of the total day-person records mention this activity, so that the group average per person each day is only 1.9 minutes. About 31.4 minutes were spent in it by the participants, and it was mainly performed (by 90 per cent) once a day. Men and women participated in it in equal degree, and there is a difference between the sexes of only 4 minutes (34 and 30 minutes) in the duration of the activity, males spending 4 minutes more. Likewise there is no consistent or important difference between various age-groups and among days of the week.

Transportation. In a metropolitan area many workers live at a considerable distance from the place of work or other places which they need to reach. Hence, transportation includes walking as one of its forms. (Walking for pleasure is not included here, since it is treated elsewhere.) When it was stated specifically that an auto ride was taken for pleasure only, it was excluded from the transportation category.

About 75 per cent of all recorded days listed this activity, and the group average per person per day was 61.8 minutes. On the average, transportation took 86.1 minutes per day per participant person: 68.6 per cent listed it twice per day (coming to and returning from work); 8.3, once; 10.4, three times; the rest, four or more times daily. Usually, as in several other activities, the more times a day (up to eight times here) it appears, the longer the total time spent on it (from 46 minutes for once, to 156 minutes for six times a day). After that, the total time decreases — 105 minutes and 47 minutes for those who listed it seven and eight times.

Both sexes had about the same incidence of this activity in their behavior. Males spent slightly more time (95 minutes) in it than females (84 minutes). On Saturdays and Sundays our group spent more time in this activity (104 and 87 minutes) than on Tuesdays (80 minutes). On Sundays and to some extent on Saturdays they seem to go on many errands to more distant places or by slower means of transportation than on

weekdays. The categories "errands" and "visits," as we shall see, support this conjecture.

Walking. More than 85 per cent of all recorded days listed this activity. An average of 55.5 minutes was spent per participant per day in this variety of locomotion, which occurred on the average of 3.6 times a day, while some 27 per cent of the day-records reported it as done five or more times a day. Here again, with an increase of its frequency per day, the total time spent in it increases, from 21 minutes for one to 116 minutes for nine times. The group average, per person per day, was 45.8 minutes.

Both sexes participated in it and spent about the same time, an average of 54 and 56 minutes. Likewise, there is no consistent difference in regard to age-groups. Tuesday and Sunday gave practically the same figure, 54 minutes, while Saturday gave 62 minutes. Probably on Saturdays more errands over short distances, beginning with chores and the like, are done.

Taken together, transportation and walking average about two and a half hours daily (on the participant basis), and, so far as they are a means to an end, they indicate a considerable amount of time spent, in spite of all the improvements of means of transportation. This improvement seems to have been counter-balanced by an increase of the distance from the place of dwelling to that of work and other places reached. It may also mean that at the present time persons cover longer distances and go to more distant places than before. Both circumstances are probably responsible for such a "waste of time" in reaching the necessary destination. A large per cent (85) engaged in walking, and the considerable time spent in this activity refutes, by the way, a fairly common opinion that contemporary urbanites no longer use this normal way of exercise, and if to this we add walking for pleasure this conclusion is reinforced.

Both of these activities are from a biological standpoint, elastic. Their amount is determined mainly by socio-economic conditions.

Shopping. Of all the day-records only about 22 per cent list this activity. It is thus less universal and regular than trans-

portation (walking), not to mention sleeping and eating, and the group average is only 16 minutes per day per person. An average of 74.1 minutes was spent in this activity per day per participant. Exactly 88.3 per cent shop once a day; 10 per cent, twice; and 1.2, three times.

Both sexes participated in it equally, but women spent more time (76.2 minutes) than men (65.5 minutes). Persons 17 to 20 years of age spent more time (93.2 minutes) than any other age-group; with increase in age generally there appears to be a notable tendency toward decrease in the time spent in shopping. As might be supposed, the principal shopping day is Saturday, with 104.3 minutes; next is the weekday (Tuesday), with 50.8 minutes; and last is Sunday, with only 37 minutes.

Since only a small per cent of the persons and days show this activity, and since it fluctuates widely from day to day between the various age-groups and sexes, we note its elastic nature. In the aspects considered here it is determined mainly by the social, economic, and personal conditions of the individuals.

Errands. Very similar to shopping is the errand activity. The main difference between the two, as they are used here, is that, while shopping means behavior in purchasing goods, errands mean such activities as "went to the bank," "took a bundle over to my sister," "mail letter," "pay bills," and the like. Only in a small part does it include short shopping errands to near-by stores.

Only about 17 per cent of all the day-records listed this activity, with a group average of 6.3 minutes daily. An average of 37.6 minutes was spent by each participant; 82 per cent of these ran errands once a day; 15.2 per cent, twice; and 2.6 per cent, three times. There is no appreciable difference between the sexes in this respect, except that males participated in it by some 3 per cent more frequently; nor is there any consistent difference between the age-groups. As was the case with shopping, more errands were run on Saturdays — 47 minutes, with 33.2 minutes for Tuesday, and 25 minutes for Sunday. Together with shopping (roughly 20 per cent of the person-

days) errands took almost 1 hour and 50 minutes per day per participant.

Household Activities (Physical). In this group are united various activities done mainly by women in and around the house or dwelling (see the activities listed under this name above). Of all the total day-person records, about 73 per cent listed it as entering into their behavior; 106.5 minutes were spent in it per day per participant and 76.5 minutes daily per person for the whole group. Of these, 32 per cent engage in it once a day, 29 per cent, twice, 17 per cent, three times, 9 per cent, four times, and the rest five and more times. With an increase of the number of periods engaged in it per day, the total time spent tends greatly to increase, from 51 minutes for those engaged once to 432 minutes for those engaged ten or more times a day.

These activities are performed by women about twice as frequently (in terms of day-person) as by men; and women spent daily 108.3 minutes, while men spent only 84.5. This shows, however, that among our group these activities are performed to a considerable degree by men also. Younger age-groups (17 to 24 years old) spent less time in it than the age-groups 30 years and more. For working people, Sundays and Saturdays permit indulgence in these activities much more than do the working weekdays. Respectively, on Saturdays 148 minutes are spent in them; on Sundays, 117.2 minutes; and on Tuesdays, only 81 minutes.

Men's Household Activities. Repairs to cars, to chicken shelter, mending door bell, painting, picking apples, tending furnace, splitting wood, and similar activities (see the classification above) compose this group. Only about 2.2 per cent of all the person-day records list this activity, but those who engaged in it spent 128.9 minutes daily, roughly two hours. The average time spent by the group, per person per day, however, was only 3.2 minutes. Seventy per cent of these did it once in a day; 20 per cent, twice; the rest, three and more times. Here again with an increase of the number of times per day the total time spent in it increases from 99 minutes for once,

to 390 minutes for four and five times. These activities remain predominantly masculine, as men participate in them some 28 times more frequently than women and spent 135 minutes per day, while women gave only 70 minutes. In other words, men nowadays carry on women's household activities much more than women participate in men's household activities. (See the preceding Women's Household Activities.)

There is no consistent difference in this respect between the age-groups. If there is any difference at all, it is in a slightly greater participation by the older age-groups. Here again Saturdays appear to be the main days for this activity, with 177.4 minutes; then comes Tuesday with 112.5 minutes; Sunday, as the day of rest (from this but not from the preceding Women's Household Activities), gives only 92.9 minutes. Generally, Saturdays seem to be the days heavy with chore-type activities, shopping, errands, and so on. Though only half a "regular" working day, Saturday is so filled with these miscellaneous chore-type activities that it is in reality one of the most strenuous days of the week.

Women's Indoor Activities. Because this group of activities is essentially different from the above Household Activities it is made into a separate group and includes such things as sewing, embroidery, darning, knitting, weaving, and so forth. These activities used to be almost exclusively women's; they remain such up to the present time; judged by the day-person records, men participated in these about 12 times less frequently than women. But although indulging rarely and probably then by the necessity, four men spent in these activities 107.5 minutes daily, whereas women spent only 84.9 minutes. All in all, however, only about 6 per cent of the person-day records mention it. This means that only a small part of the males include it in their behavior, and that even the women were not consistent in taking part in it.

On the average the participants spent 85.4 minutes daily, and the group spent 4.8 minutes daily per person. Eighty-six per cent of the cases indulged in it once a day; 10.2 per cent twice, and the remaining 3 per cent three times. Here again,

with the increase of the number of periods of engagement in this activity, the total time spent in it daily increases from 74.9 minutes for one engagement to 181.7 for three engagements daily. Saturday is the day when this activity is indulged in most (96 minutes); then comes Sunday (92 minutes), while

PHYSICAL NEEDS

SPECIFIED ACTIVITY	AVERAGE DURATION PER PARTICIPANT (MINUTES)	AVERAGE DURATION PER MEMBER OF TOTAL GROUP (MINUTES)	PER CENT OF PARTICIPATION
Sleep	504.5	504.5	100.0
Eating	89.7	89.2	100.0
Health	91.4	2.8	0.4
Exercise	14.0	0.2	1.5
Personal Care	77.4	76.0	100.0
Total		672.7 or 11 hrs. 12.7 min.	

ECONOMIC ACTIVITIES

Work	332.2	206.7	Semi-universal
Miscellaneous	31.4	1.9	6.0
Transportation	86.1	61.8	75.0
Walking	55.5	45.8	85.0
Shopping	74.1	16.0	21.0
Errands	37.6	6.3	17.0
Household (Physical) ..	106.5	76.5	73.0
Men's Household	128.9	3.2	2.2
Women's Household	85.4	4.8	6.0
Total		423.0 or 7 hrs. 3 min.	

Tuesday gives only 70 minutes. The weekdays are occupied more by work and therefore do not leave as much time for this activity as Sunday and Saturday.

Before passing to the third main class of activities, the *Societal*, it is advisable to stop for a moment and make a rough summary of the activities studied.

The figures in the table give three items: the average duration of time spent in each specified activity per participant; the per cent of the participation in each activity by the members of the group studied; and the average duration of each activity per member by group (given in the second column). It means

the time which is occupied by each activity in the behavior of each member of the group studied if each member participated in it equally. This last item may serve in a sense as an index of the importance of each activity measured by a length of time it occupies in behavior.

Thus measured by *average duration per member of the group, sleep occupies first place; then work; then eating; then household activities (physical) and personal care, transportation, walking (to a destination), and shopping. In descending order, the other activities occupy still less important places.* Of the two large classes of activities, that of the physical needs takes some four and a half hours more than that of the economic activities. These summary data give a fairly precise idea in what activities the life of our group is spent and to what extent every twenty-four hours of their existence includes them. No doubt, these figures fluctuate from person to person, from group to group; but in their essentials they are likely to be roughly representative of many and much larger groups in contemporary western society. They suggest that out of every twenty-four hours about eighteen are spent in activities satisfying physical and economic needs. If in and through these activities other more refined needs are simultaneously satisfied — and often they are — then all is well. If they are not, there remain only some six hours per twenty-four hours for the satisfaction of these other needs taken together.

CHAPTER V

SOCIETAL ACTIVITIES

Altruistic Activities (Personal Household Activities). These various activities consist mainly in rendering help or in taking care of the members of the family and were entered as: "Attend to mother," "care for children," "massage mother," "gave medicine," and so forth.

Only 6 per cent of all the records register such pursuits, with a group daily average of 5 minutes per person. The participants spent on the average 82.4 minutes daily; 58 per cent performed them once a day; 16.1 per cent, twice; 14.2 per cent, three times; the rest four and more times. With an increase of the periods a day the total time spent tended to increase from 67.9 minutes for those who showed one such activity to 310 minutes for those who listed 8 performances.

Incidence of this activity is about the same for both sexes; but women spent 87.3 minutes, and men 62.9 minutes. As to the age-groups, the youngest (17-20 years) and the oldest (40-50 and more years) show the maximum time spent: 122.9 minutes for the youngest, and 243.3 and 390.0 minutes for the oldest. The age-groups in-between these extreme classes spent from 55 to 79 minutes only; this probably means that the youngest groups helped and cared for their older relatives, while the oldest groups (but not too old) helped their children or their husbands and wives. On Saturdays and Sundays the average time spent for household activities was 91 and 90 minutes; on Tuesdays, 82.9 minutes.

Playing and Staying with Children. This is a variety of the preceding group of activities and may be easily united with it. As our group was predominantly young and not all those who were married had children, only some 2 per cent of the records include entries in this category, and 0.9 of a minute was spent on it daily by the average person in the group.

The participant spent an average of 47.4 minutes daily, and the activity was performed by 92.6 per cent once a day; by 5.9 per cent, twice. Males participated in it about three times more frequently than women, but both sexes spent the same time at it daily. Here also the youngest age-group (17-20 years) and the group 35-39 years spent more time (60 and 57 minutes) than the other age-groups. Somewhat unexpectedly, Tuesday showed 65.5 minutes; Sunday, 59.1; and Saturday, 52.9 minutes. Whether this typically reflects a common situation, we are not in a position to state.

With Family. A variety of the mutual-help activity (mainly family) first discussed, is represented by this group, embracing such activities as "spending time with family," "spending time with wife," and so forth. Only about 1.5 per cent of the records registered it; but this small percentage no doubt is due to the fact that many of the individuals did not live with their families, and also, possibly, because some entered it under a different group. For example, if one played cards with family members, this was classified as "playing cards."

The participants spent 114.7 minutes daily, and registered the occurrence as happening only once a day. The average person in the group spent 1.4 minutes daily in this way. Men entered it fourteen times more than women; and they spent 119 minutes "with family," while women spent 105 minutes. For obvious reasons, with an increase of age the time spent tends clearly to increase. Finally, Tuesdays showed 273.3 minutes; Saturdays only 170, and Sundays only 16.7 minutes. This probably means that on weekdays working persons stay at home more after working hours than on Sundays and Saturdays, which, as we have seen, are the days spent either in doing various chores around the house, shopping, or in outside pleasurable activities.

Ceremonies. Attendance at and participation in weddings, funerals, christenings, engagements, graduation exercises, and so forth, are activities also centered about the family and close friends. Such events are generally rare, especially so for those who live outside of their families. This explains why they are

mentioned in less than 1 per cent of all the records and why the group average for the time spent each day per person is only 0.7 minutes. The average participant spent 108.6 minutes daily in attending ceremonies. Such an activity took place only once a day in 81.8 per cent of the cases and twice in 18.2 per cent. Women participated in ceremonies about three times more frequently than men, but when participating at all, men spent 135 minutes, and women 105 minutes. Typical weekdays (Tuesdays) seemed to contain more of these activities (210 minutes) than Saturdays (120 minutes) and especially Sundays (107 minutes).

Visiting. Again, visiting is a social activity concerned primarily with the members of the family, friends, and acquaintances. About 17 per cent of our records presented it. For a larger part of our group, other forms of activity, like courting, dancing, having dates, and so on, united into a different group, were substitutes for visiting. Participants spent an average of 127.7 minutes per person a day, and the group spent 21 minutes per day per person. In 92 per cent of the cases, visiting was done once a day; in the remainder, twice or more daily. With an increase in the number of periods of visiting, the total time spent tends to increase from 120 to 187 minutes. Men registered it slightly more frequently and spent more time than women (133 and 123 minutes respectively). The middle and younger age-groups appear to have visited somewhat more than the older groups. Sundays (150 minutes) and Saturdays (132 minutes) were preferred for visiting more than weekdays (Tuesday, 122 minutes).

Entertaining. Again, this activity was displayed mainly in the circle of relatives, friends, and acquaintances and often it was a duty imposed by social mores and norms. Only about 4 per cent of our records reveal it, with 5 minutes the average time spent per person per day and 113.5 minutes per participant per day; 95.5 per cent entertained once a day; the remainder, twice or more. With an increase in periods, the total time increased from 108 to 390 minutes. Women indulged in entertaining slightly more frequently than men, but spent 111.1

minutes in entertaining while men spent 123 minutes. There was no consistent relationship between time and age, but the 25-29 group showed the maximum, with a tendency for the younger and older groups to indulge in it less and less as we moved from this age in both directions. Those participants 50 years and older entertained less than any other age-group. Sundays with 115 minutes and Saturdays with 113 minutes were the main days devoted to this activity, while Tuesday showed less frequency or duration (90 minutes).

Cards. Though playing cards may be considered in the class of "Various Pleasurable Activities" nevertheless, for our group, it is to a considerable degree a constituent part of family-friends' entertainment and meetings; therefore, as such it can be analyzed here.

About 8 per cent of all the records mentioned this pastime, with an average of 9.3 minutes spent per person per day. The average per participant per day was 128 minutes spent in card playing. Of the participants, 97.6 per cent engaged in it once a day; 2 per cent, twice; and 0.4 per cent, eight times. Those who played once a day spent 126.6 minutes; those who engaged in it twice, 206 minutes; while those engaged eight times, played only 100 minutes. Here again, beyond a certain number of engagements a day, the increase in the number does not lead to an increase in the total time but to its decrease.

Men averaged 135.6 minutes, while women spent 123.5 minutes. There was no uniform tendency as to the time spent by the various age-groups. Sunday was the favorite day for cards, with 145 minutes spent; then came Saturday, with 138.7 minutes; and finally Tuesday, with 126 minutes.

Correspondence. In our group this activity was also found within the family, friends, and acquaintances circle. A small fraction of letters was of a business type, but the fraction was insignificant. Such letters enter the category of work.

Only some 5 per cent of the total day-person records showed engagement in letter writing, and only 2.7 minutes was spent daily by the average person in the group. The participants spent an average of 51.9 minutes per day. Of this group, 92.3

per cent participated once a day, 7.7 per cent, twice or more. Both sexes participated in it approximately the same number of times per day, but men spent 62.4 minutes while women spent only 47.2 minutes. No clear trend is given in connection with the age-groups. Letters were written mainly on Saturdays (70 minutes) and Sundays (63 minutes); fewer were written on Tuesdays (33 minutes).

Telephoning. Only some 4 per cent of all the records mentioned this activity with a group average of 0.9 minutes spent per person each day. In all probability many calls consumed less than 5 minutes and thus were not listed. The average was 17.8 minutes spent daily by the participants; 86 per cent used the telephone once a day; 10.1 per cent, twice; and 3 per cent five times a day. Those who telephoned five times spent in all less time (13 minutes) than those who called once (17 minutes) or twice (25.6 minutes). Women used the telephone about four times more often than men and spent 18 minutes, while men spent only 12.8 minutes.

In contradistinction to entertaining, telephoning done by the group in the 25-29 age bracket was at a minimum, and from both directions the time spent tends to increase. In other words, here the curve of the age-groups in regard to the time spent is opposite to that of entertainment. On Sundays, 24 minutes were spent in "phoning," on Tuesdays 18.3, and on Saturdays 14.6 minutes. Saturday, a day which shows the highest frequency for many activities, was at the bottom for this one.

Civic and Political Activities. With civic and political activities, we move into a larger social sphere than the circle of the family, friends, and acquaintances. As the term indicates, in this group the political activities proper are united. "Social Activities" consisting of such activities as "attend conventions," "clubs," "lodge meetings," and so forth, are considered later in relation to them.

The most important feature of this category is that *only about one-tenth of one per cent of all the records register such an activity*, with a group average of 0.1 of a minute spent per day by each person. If the age-group 17-20 years is excluded

from such activities, there still remain more than 2000 person-day records of the older age-groups who are entitled to participate in these pursuits. And yet, even for these age-groups, the per cent of the cases registered is only about two-tenths of one per cent. Such a fact shows that at the present time for one group of working people these activities either are nonexistent or enter the behavior of an exceedingly small part (with the possible exception of national election day and similar important political events which occur only infrequently). Such a situation might explain, if it were typical of the working population, why political activity as such plays an unimportant part in the behavior of the population even of democratic countries of the present time, why many noble political slogans seem to have lost their fascination and to mean little, if anything, to the mass of the unfortunately situated working people, and why, under such circumstances, political apathy prepares the way for dictatorships carried on by the decisive minority of the population. We do not know how typical our sample may be in this respect, but their non-participation in political activities is an interesting commentary on their behavior.

The participant spent an average of 96 minutes daily in these activities. In 100 per cent of the cases any preoccupation of a political nature occurred only once a day. Males participated in it in greater proportion (by about six times more) than females and spent an average of 153.3 minutes daily, while females spent only 10 minutes. However, since there are only 5 schedules for this activity, comparisons between men and women and various age-groups are questionable.

Social Activities. As has been said, under this heading are included such activities as attending various (not necessarily political) conventions, participation in club, dramatic society, lodge, and other associations. Less than 2 per cent of all the day-person records mention participation. If we regard these activities as a variety of the political, even then only about 2 per cent of the records show political-social activity. This means that it occupies an unimportant part in the behavior of our group, as is shown by the average time spent daily per

person, 3.1 minutes. It may be noted that this small category of activities is that commonly accepted as an index of "socialization" and "social participation." The small percentage of cases listing it here would seem to negate its value as an index of the extent of social participation or "socialization."

On the average, 160.7 minutes were spent in this activity per participating person per day; 95.5 per cent discharged it once a day; 3 per cent, twice; and 1.5 per cent, eight times. Those who performed it twice spent 185 minutes in it daily, while those who did it once a day spent 160 minutes, and those who discharged it eight times spent only 100 minutes. Here, as in several other cases, an increase of the number of the periods engaged in it daily, does not lead, beyond a limited number (here beyond two), to an increase of the total time spent.

Men participated in social activities more extensively (180.7 minutes daily) than women (154.6 minutes per day). Thus this activity remains still somewhat more men's than women's, but probably less so than political activity. No consistent uniformity is shown between the age-groups and the time spent. Saturdays are the main days of such an activity, with 217.5 minutes spent; then come Sundays, with 208.8 minutes, and finally Tuesdays, with 135 minutes. Thus on weekdays political and social activities are discharged less than on Sundays and Saturdays. But Sundays are the main "political" days, while Saturdays are the main social activity days for our group.

Talking. Talking is an activity that is interwoven with many other preoccupations and as such it occupies a prominent place in the time-budget of our behavior. Here, however, are included only activities in which the talk seems to be of chief importance — chatting, arguing, joking, listening to someone's talk, and similar actions. Such activities as reading aloud, delivering an oration, or talking in a dramatic performance, and the like, are excluded from this category, since they are considered further elsewhere. To sum up, here we have a somewhat incidental activity — partly active and partly passive (listening to somebody) — which is nevertheless the main activity during the time spent in it.

About 55 per cent of all the records include this item; 56.1 minutes is the average time spent per participant per day, and about one-half hour is spent daily by the average person; 57 per cent of the records register it once a day; 26, twice; the rest, three and more times. With an increase of the number of "talkings" engaged in per day, the total time spent systematically increases from 36.2 minutes per day (once) to 300 minutes (eight times).

Both sexes participate in it about equally, but men spent 67.7 minutes per day, and women somewhat less time — 52.8 minutes. This finding appears not to substantiate the popular notion that the female is the more talkative sex. Most "chatting" is done by the groups from 30 to 44 years of age (63 to 77 minutes); less loquacious than these are the younger and older age-groups (50 to 58 minutes). Sundays and Saturdays, with 74 minutes, seem to be the most "talkative" days, while Tuesdays are less so, only 43 minutes being spent in this manner.

These activities exhaust the class of "Social Activities."

If we sum them up we receive the following notion of their rôle (judged by time spent and their universality) in human behavior.

SOCIETAL ACTIVITIES

ACTIVITY	AVERAGE TIME PER PARTICIPANT (MINUTES)	AVERAGE TIME PER MEMBER OF TOTAL GROUP (MINUTES)	PER CENT OF PARTICIPATION
Altruistic	82.4	5.0	6.0
Playing and Staying with Children	47.2	0.9	2.0
With Family	114.7	1.4	1.5
Ceremonies	108.6	0.7	Less than 1.0
Visiting	125.7	21.0	17.0
Entertaining	113.5	5.0	4.0
Cards	128.0	9.3	8.0
Correspondence	51.9	2.7	5.0
Phoning	17.8	0.9	4.0
Political and Civic	96.0	0.1	1/10 of 1.0
Social	160.7	3.1	Less than 2.0
Talking	56.1	30.8	55.0
Total		80.9 or 1 hr. 20.9 min.	

Thus if we take the average time per member of the group, the total of "Social Activities" occupies only 1 hour and 20.9 minutes, as compared with 11 hours and 12.7 minutes for "Physical Needs Activities," and 7 hours for "Economic Activities." For the group as a whole, therefore, a very modest proportion of time is expended in societal activities, and from this standpoint they are much less important than the activities of the other two types.

Within this main category of activities talking takes the first place in expenditure of time; visiting is second; playing cards is third; and altruistic and entertaining activities are fourth. Political and civic activities consume only one-tenth of one minute a day per person, thus occupying one of the lowest time consumption divisions of any activity. Such a result is certainly unexpected by many and is in sharp contrast with what is preached and taught by contemporary democracy, which is presumably a "government of the people and by the people." If the people, insofar as they are represented by our group (and it probably does represent a considerable slice of the urban semi-proletariat), spend only one-tenth of one minute per day for all political and civic activities, such a preoccupation can hardly be said to play an important rôle in their behavior, and by implication does not mean a great deal to them in contrast with other values. Regardless of implications, however, the fact is that this group spends practically no time in these activities.

Such a situation is likely to mean a decided decline of the rôle and value of these activities in the conduct and mentality of the group. It amounts to political indifferentism. The members appear to have about as little active participation in political and civic activities as is proverbially the case with subjects of autocratic oriental countries. Such a group furnishes a favorable basis for the emergence and growth of various political minorities with dictatorial tendencies. And perhaps this fact explains why such minorities and tendencies have already appeared in this country. However this may be, the fact discussed is important and belongs to the category of what Huxley

styled "the ugly fact" that kills beautiful phantasies! All those concerned with real democracy and political and civic education should heed the reality of this observation for this group.

Its weight may be somewhat discounted by a consideration of a much greater *passive* participation in political and civic activities by the persons studied. By passive participation is meant an interest in political and civic issues and a satisfaction of this interest through following political and civic news in papers, magazines, books, and on the radio, and through discussion of the issues in talk. Granting that such a supposition is valid — though we do not know it — and granting that it improves somewhat the gravity of the situation discussed, it hardly eliminates it. Any interest remaining passive for a long time and not manifesting itself in overt activities is liable to die out gradually. Even the subjects of autocracies have such a passive interest and follow and gossip a great deal about political and civic issues. This does not, however, result in real participation in political activities; nor does it transform these autocracies into democracies.

Another warning given by this finding is methodological. Many an investigator takes political and civic activities as one of the main criteria of "social participation," "social contact," and "socialization." Judged by these criteria our group should be considered as one of the least "socialized" and as having the lowest (almost nonexistent) social participation and contact. Nevertheless, we shall see that in reality the group has plenty of social contacts and interacts with many persons and groups. This means that the above methodological criteria are inadequate and misleading and may give false results. But about that more will be said in one of the subsequent chapters.

CHAPTER VI

CULTURAL ACTIVITIES: RELIGIOUS, INTELLECTUAL, ARTISTIC

1. *Religious Activities.* Only about 20 per cent of all the records register this activity, in a narrow sense of the term, as can be seen from a detailed enumeration of the activities under this heading. This means that religion enters the behavior of only a small proportion of the individuals or that these activities are not performed every day. In this sense the figure is an indication that these activities are far from occupying an important time-consuming rôle in contemporary behavior. This is confirmed by the fact that the average time spent daily by the group (per person) is 8.3 minutes.

The participants spent an average of 40.8 minutes daily; 70 per cent engaged in religious activities once a day; 26 per cent, twice; the rest, three or more times. With an increase in the number of times, the total time spent daily also increases from 38 minutes for one time to 195 minutes for six times a day.

Men participated in religious activities 5 per cent more than women (42 and 40 minutes respectively). The age-group 35-39 years spent the most time (75 minutes); the younger age-groups spent from 26 to 45 minutes, while the older groups (40 to 50 and older) spent the least time (18 to 16 minutes).

Sunday was naturally the best day for such an activity (60 minutes); then came Saturday (40 minutes), while the week-day (Tuesday) showed the least time devoted to it (26 minutes).

Summing up, one may say that this activity takes an average of 8.3 minutes per day per member of the total group. Compared with one-tenth of one minute for political and civic activities, religious activities consume more than 80 times the time devoted to political and civic activities. From this standpoint they mean more, are probably valued more, and are much more alive than political activities. On the other hand, com-

pared with many other activities, the religious ones occupy a very modest place.

2. *Intellectual Activities. Attending Lectures.* Only about 3 per cent of all the records mention intellectual activities, and 4 minutes a day was spent on them by the group. The participants spent an average of 114.7 minutes per day; 95 per cent of these participated once a day (114 minutes); the remaining per cent, twice or more (136 minutes). The participants were 3.9 per cent women (110 minutes), and 2 per cent men (137 minutes). Saturdays (141 minutes) and Sundays (125 minutes) were the best days for attending lectures, while Tuesdays showed only 101 minutes. Weekdays, therefore, seem to be less convenient days for that activity in our group.

School. Since only regular school attendance was listed as an activity in our study, only one person registered this in three of his daily records (123 minutes). Because our group was over 17, and since it was not composed of a college group, such a small number is understandable.

Study. Less than 2 per cent of the total records mention studying, with a group average of 2.7 minutes per day. The participants spent an average of 140 minutes; 75 per cent of these, studied once a day; 10 per cent, twice; 9 per cent, three times; and the rest, four times. Here again with an increase of the daily periods of study the total daily time spent increases from 104 for one period to 295 minutes for four periods of study.

Men participated about three times more, with 164 minutes daily, than women, with 116 minutes. Of the various age-groups, the age 30-39 years spent the most time (140 and 144 minutes); those 40 and less than 21 spent the least time (30 and 66 minutes). Saturday was the best day for studying, with an average of 198 minutes per day; Sunday was next, with 131 minutes; and last, Tuesday, with 91 minutes. For a group like ours — and possibly for many others busy during the weekdays with non-intellectual "work and business" — the results are those to be expected.

Thus we find only an insignificant part of the group engaged

in attending lectures, school, and studying; even then they do not spend very much time at it. It would seem that the intellectual development of the group is achieved through other channels, and since one of these is reading, let us look at it.

Reading I. Reading Books. Reading books probably represents more serious reading than the other two varieties: Reading Magazines and Papers, and Reading (Unspecified).

Only 15 per cent of the total records mention this activity, with an average daily time of 14.4 minutes per person; 97.1 minutes were spent daily per participant; 87 per cent of these read once a day, with an average of 87 minutes; 10 per cent read twice, with an average of 160 minutes; the rest read three or more times a day, with averages of 192, 285, 110, and 100 minutes for reading three, four, five, and seven times a day. Here again we see that reading "once to four times" a day increases the total time, but after four times tends to decrease it.

The per cent of women reading books is slightly higher than that of men, but men spent more time daily (120 and 92 minutes). The age-groups 30-44 and 21-24 years spent more time at it daily (104 and 110 minutes); the other age-groups less time (62 to 99 minutes). Most reading of books is done on Sundays, with 112 minutes; Saturdays are next in order, with 103 minutes; and Tuesdays last, with 94 minutes. The reader will notice that Sundays and Saturdays are the best days for studying, attending lectures, and reading books, and also that the age-groups engaged in these intellectual activities center around 30-44 years for all three of the activities.

Reading II. Reading Magazines and Papers. Since about 50 per cent of the people participating in reading magazines and papers, this seems to have become the main means of "education and enlightenment" and the most important "school" for adult education. An average of 59.2 minutes was spent per participant and of 29.3 minutes per person; 77 per cent read once a day; 19, twice; 3, three times; the rest, four and more times. Here again, up to four times a day the total time spent daily increases from 48 to 161 minutes; but after that

(for those who read five and more times daily) the total time per day decreases to 123 minutes for "five times" and 55 minutes for "six times." This situation affords another instance of what is called "the principle of limits."

Since 65.6 per cent of the men-participants spent 76 minutes daily and 45 per cent of women spent 52 minutes, we note that this sort of reading is slightly more masculine than feminine. There is a tendency toward an increase in time with an increase in age (although those of 50 or more are an exception). Sundays, with 75 minutes, and Saturdays, with 64, are again the favored days for this sort of reading, while Tuesday, with 56 minutes, is less convenient as a day for reading.

Reading III. Reading (Unspecified). As only about 9 per cent of our cards mentioned unspecified reading, this activity probably consisted mainly in the reading of magazines and papers. Eighty-eight minutes were spent daily by each participant and 8 minutes by each person. Here again, up to three times, the total daily time increases from 79 minutes for "once" to 187 minutes for "three times"; after that for "six times" it decreases to 10 minutes.

Exactly 9.4 per cent of the women, with 83 minutes, and 7.4 per cent of the men, with 106 minutes, participated in it. No trend is noticeable in connection with the age-groups. Again Sundays and Saturdays show more time spent (108 and 88 minutes respectively) than Tuesdays (85 minutes).

Radio-Listening. Finally, some intellectual education is believed to be obtained through the radio. Whether this is true or not, and whether our group listens mainly to jazz, crooning, and "hot stuff," or to various "educational programs" remains unknown. But let us look at the characteristics of radio-listening activity. About 34 per cent of the cards registered it, with 77.8 minutes as the daily average spent per participant and 26.3 minutes spent each day per person. It is seen at once that this activity is somewhat below the per cent devoted to reading magazines and papers; but it is above it in the length of time spent. Eighty per cent listened once a day, with an average of 67 minutes; 16 per cent, twice, with 117 minutes; 2 per cent,

three times, with 188 minutes; the rest, four and more times, with rapidly declining total averages per day of 30 and 20 minutes.

Forty-two per cent of the males participated in it and 31 per cent of the females. Men listened somewhat longer (92 minutes) than women (73 minutes). The age-group 30-34 appears, here again, to spend more time (100 minutes) than any other age-group. Moving from this age-group to the younger as well as to older age-groups, the average daily time spent tends steadily to decline in both directions. Sundays and Saturdays are the main radio days, with 96 and 92 minutes spent daily; on Tuesdays only 65 minutes is given to listening to the radio.

With these we exhaust the main activities of an intellectual character. If all the activities of that class are summed up we have the following picture:

INTELLECTUAL ACTIVITIES

ACTIVITY	AVERAGE DURATION PER PARTICIPANT (MINUTES)	AVERAGE DURATION PER MEMBER OF TOTAL GROUP (MINUTES)	PER CENT OF PARTICIPATION
Attending Lectures	114.7	4.0	3
School	123.0	0.1	Less than 1/10 of 1
Study	140.0	2.7	Less than 2
Reading (Books)	97.1	14.4	15
Reading (Magazines and Papers)	59.2	29.3	50
Reading (Unspecified) ...	88.4	8.0	9
Radio	77.8	26.3	34
Total		84.8 or 1 hr. 24.8 min.	

Thus, the intellectual activities consume about the same time as the societal activities; the intellectual activities consume about ten times the average (per number of the total group) of the religious activities; and all the societal, religious and intellectual activities occupy much less time than the physical needs and economic activities.

Of the separate activities of the intellectual type, the most important (from the time-consuming standpoint) are in order: first, reading papers and magazines; second, listening to radio; and third, reading books. The remainder occupy a comparatively unimportant place.

For a group such as this one in contemporary society, the main "schools" seem to be the daily press, magazines, and radio. Many other serious, substantial, and deeper "schools" (attending serious lectures, reading books — especially serious books — and study) appear to play a very modest and insignificant rôle. These persons seem to be adjusted to a "paper-and radio-minded" society and mentality. If these media have low standards, adult education will be on a low level; correspondingly, if their standards are high, the plane of adult education is elevated.

3. *Artistic Activities. Active Arts and Crafts.* A little more than 1 per cent of the total records mentioned arts and crafts, possibly the most important and educational artistic activity. The average time per day per participant was 140.7 minutes; per person 1.7 minutes. Here, up to "three times," the average daily total time increased from 125 to 315 minutes. Men participants (0.1 per cent) spent 200 minutes daily, while women (1.5 per cent) spent 139 minutes. The age-group 35-39 spent the greatest time (200 minutes); the ages, 50 and more and 17-20, the least (60 and 66 minutes). Saturday was the main day, with 176 minutes; then Tuesday, with 141 minutes, while Sunday was last, with only 36 minutes.

Theatre. The theatre activity includes movies, amateur performances, musical comedies, shows, and so forth. The more serious and artistic theatre occupies a very minor place in the thought of this group. Only 11.6 per cent of all the records mentioned this activity. The average time per participant was 186.7 minutes, per person 21.7 minutes, with 99.3 per cent of the cases attending the theatre once a day.

Women (12.7 per cent) spent 189 minutes in theatre attendance, and men (7.4 per cent) spent 179. There is no notable difference for age-groups. Somewhat surprisingly, there was

no difference in attendance on Sunday, Saturday, and Tuesday, a fact which proves that attendance at movies and theatres has become an activity equally diffused throughout the week.

Musical Activities. Musical activities include the active forms of participation in the following: playing the piano, playing in bands, rehearsing for chorus, singing in community groups, and so forth. A little more than 2 per cent participated in these activities, with an average of 1.5 minutes daily per person and 59.8 minutes per day per participant. We note that 88 per cent participated once a day (55 minutes average); 8 per cent, twice, with 91 minutes; 1 per cent, three times, with 120 minutes; and the rest, four times, with 70 minutes per day. Here again the "limit" in increase of total time spent is reached with an increase of the periods of discharge daily; after three times the total decreases.

The same per cent of both sexes participated, but men spent more time (77 minutes) than women (55 minutes). No uniform relationship appears between time spent and age-groups. The maximum time was spent on Sundays (71 minutes); on Saturdays it was 58 minutes, and on Tuesdays 52 minutes. Thus in this respect the activity occupies a different position from that of "Active Arts and Crafts" and "Theatre."

A small part of a passive attendance at concerts is mentioned in "Attending Lectures," analyzed above. We saw, however, that the total of this activity involves only about 3 per cent of the participants. (See above.)

With these activities, including radio, the class of artistic activities is exhausted. Summing up the results we obtain the table (page 65) of the whole class viewed from the standpoint of time-expenditure.

As we can see, the total time spent on artistic activities is smaller than that spent on any other activity, with the exception of the religious, and it amounts to less than a half-hour per day per member of the total group. The per cent of participation is also insignificant in all forms of artistic activity. It appears that, in spite of all the measures taken for "art education," it does not reach many of the class it is aimed at, and as a result

our group remains barely touched by artistry and the arts. Even if we add such previously considered activities as playing the radio, and a few others, the picture still is not very favorable.

ARTISTIC ACTIVITIES

ACTIVITY	AVERAGE DURATION PER PARTICIPANT (MINUTES)	AVERAGE DURATION PER MEMBER OF TOTAL GROUP (MINUTES)	PER CENT OF PARTICIPATION
Active Arts and Crafts . . .	140.7	1.7	1+
Theatre, Movies	186.7	21.7	11+
Musical	59.8	1.5	2+
Total		24.9 min.	

It seems that at the present time the radio is the most important agency of artistic activity, so far as the percentage of participation in it is concerned. Our sample of contemporary urban "white-collar" workers evidently is deprived of the spontaneous artistic activity of the older rural villagers, as well as of much contemporary artistic activity, especially of the finest and best forms of art. In this sense it appears to be an artistically "lost" group. Can we wonder, therefore, that in this "lower" layer of the population no original or beautiful folk songs, folk tunes, fairy tales, folk literature, and folk art, have originated, in contradistinction to those of the mediaeval and many other periods?

The total time for the whole group of cultural activities (religious, intellectual, and artistic) amounts to 1 hour and 58 minutes, or roughly, to 2 hours per day per person. Compared with 18 hours spent on physical needs and economic activities, this is a small fraction. Many writers on leisure have emphasized the great amount of time accessible for leisure and the difficulty experienced by the persons involved in filling the hours with worthwhile activities, but our study shows that there remain only about six hours for all possible leisure activities. These six hours are not so long as to cause anxiety to those who care for the soul and body of the people. If anything, six hours is rather too short a time to carry on satisfactorily all

the desirable societal, cultural (religious, intellectual, and artistic), and other activities. As one-third of these six hours is taken for cultural activities, and one hour and twenty minutes for societal activities, there remains a little more than two hours unaccounted for. Let us now see how these are used and in what activities they are spent.

CHAPTER VII

LOVE AND PLEASURABLE ACTIVITIES

1. *Love and Courting Activities.* *Courting* ("Spoonings," "dating," "entertaining by boy friend," "kissing," and so forth). Only about 2 per cent of the records mention "courting," with 77 minutes per participant per day and 2 minutes per person daily. Of this group, 84 per cent do it once daily, with 77 minutes; 15 per cent twice, with 77 minutes; and the rest three times with 50 minutes daily average. Here there is no positive correlation of the total daily time spent in it with an increase in the number of the periods per day. Women participated in it to the extent of 3.1 per cent, whereas men showed 0.3 per cent participation. But women participants spent only 76 minutes, while men spent 115 minutes.

In order to interpret these figures accurately, one has to keep in mind that most of the married members of the group above the age 30 do not mention it. Also, there is in our group a preponderance of young unmarried girls. The youngest age-group, 17-20 years, had a maximum time of 96 minutes, while the groups from 21 to 29 spent only 60 and 55 minutes. Tuesdays appear to be the favorite courting days, with an average of 82 minutes, followed by Sundays with 62 minutes, and Saturdays with 59 minutes. These data, however, may be unrepresentative for larger groups.

Dancing. About 4 per cent, or twice more than in "courting," register this activity, with 147.9 minutes per day per participant and 6.6 minutes each day per person. It is a substitute, to a considerable degree, for courting. Of the total, 97 per cent participated in it once a day, with 148 minutes; the rest twice or more times, without, however, a systematic increase of the total time spent in it daily. Again, for the same reason indicated under "courting," 5.6 per cent of the women and only 0.1 per cent of men took part in dancing, with 147 minutes

the daily average for participating women and 180 minutes for men. Above the age of 39 we do not find any individual participating in dancing. Of the younger ages, the age 17-20 spent maximum time in it, with 160 minutes per day per participant.

Tuesdays again are the preferred days for dancing, with 162 minutes, followed by Saturdays, with 158 minutes, and Sundays, with 127 minutes. This outline shows that this activity has practically the same characteristics as courting and that both could be united into one group. The summary picture of this class of activity is seen from the following table.

LOVE AND COURTING

ACTIVITY	AVERAGE DURATION PER PARTICIPANT (MINUTES)	AVERAGE DURATION PER MEMBER OF TOTAL GROUP (MINUTES)	PER CENT OF PARTICIPATION
Courting	77.0	2.0	2
Dancing	147.9	6.6	4
Total		8.6 min.	

Judged by the average duration per member of the total group these activities take about as much time as religious activity, some 8 to 9 minutes per day. From this standpoint the group of these activities takes comparatively little time when considered per member per day. As a matter of fact, these pastimes are concentrated mainly among the younger age-groups which are unmarried; for such participants courting and dancing consume quite a considerable part of their time.

2. *Various Pleasurable Activities.* This class comprises a set of different activities, marked, however, by a common trait: their pleasurable character, which makes them ends pursued for their own value.

Amusements. Only a little more than 1 per cent of the records mention it with an average of 1.3 minutes spent daily for the group. The average time spent per day per participant is 100.2 minutes; 96 per cent of the participants indulged in it once a day, with 102 minutes, and the rest twice, with 90 minutes daily.

Women engaged in amusements to the extent of 1.4 per cent and men 0.7 per cent, but men spent 122 minutes daily, while women devoted only 97 minutes. There is no marked tendency in time spent in connection with various age-groups. Tuesdays show 170 minutes, while Saturdays show only 113 and Sundays only 73 minutes. Like courting and dancing, amusements in our group seem to be pursued mainly on weekdays.

Auto-Riding (for Pleasure). About 13 per cent of the schedules list auto-riding. This per cent of participation makes it a more common activity than either amusements or courting-dancing or any artistic activity, as is shown by the daily average per person of 21.7 minutes. The average time spent in it per participant is also considerable: 174.5 minutes, or almost three hours. Seventy-four per cent of the participants do it once a day, with 164 minutes given; 21 per cent twice, with 195 minutes; 3 per cent three times, with 289, and 0.2 per cent four times, with 410 minutes, after which, for those who do it five times, the total time spent decreases to 160 minutes.

It may be noted that 14.2 per cent of women and 4.4 per cent of men participated in it; women spent an average of 176 minutes and men 165 minutes. Doubtless some courting and spooning are included in this form of activity. No consistent difference is shown by different age-groups, with the exception that the ages 25-29 and 17-20 participated most (204 and 172 minutes, respectively). Saturdays with 187 minutes and Sundays with 179 minutes are the main days for this activity, while Tuesdays give only 155 minutes.

Thus this is a pleasurable activity which is performed to a considerable degree by members of the contemporary white-collar proletariat. If they have cars, or can find somebody who will offer a ride, they are ready to enjoy it. It is an easy form of recreation and does not require either physical or mental effort. The "courting" element involved makes it still more attractive to many.

Idling. The various activities under this name (see the description of it above) are indulged in by 29 per cent of the fillers of schedules, with an average of 62.9 minutes spent per

participant per day. It is an important item in the behavior of our group, with a daily average of 18.2 minutes per person. It may be partly imposed by unemployment, but it is mainly enjoyed for its own sake.

Of the "idlers," 75 per cent indulged once a day, 20 per cent twice, the rest three and more times. The total time spent per day tends to increase with an increase in the number of indulgences per day. After five indulgences, it again decreases with a larger number of the periods in a day.

Women participated in it 4 per cent more than men did, but spent daily only 59 minutes while men spent 78 minutes. No uniform tendency is evident in connection with the age-groups. On Sundays 78 minutes are spent in this activity; on other days somewhat less.

Thus it appears as the second most important form of pleasurable activity, with a large per cent of participants.

Smoking. Smoking is done as a subsidiary activity along with other activities. Here smoking is considered as the main activity with its own time-consumption. About 11 per cent of the schedules mention it, with 15.3 minutes per participant per day and 1.7 minutes per person daily. Sixty-two per cent register it as indulged in once a day, 25 per cent twice, 10 per cent three times, 2 per cent four times, and the rest five times a day. The total time spent in it per day increases with an increase in the number of the periods of smoking per day up to four times; after that it drops.

Men and women indulge in smoking to about the same degree, but the amount of time spent shows a slight priority for women. The age-groups 30-39 spent the least time smoking. Tuesdays are marked by 19 minutes, Saturdays by 18 minutes, and Sundays by 14 minutes spent in it.

By the percentage of participants this activity plays a prominent part in the behavior of our group.

Play and Recreation. Swimming, bathing, beach lounging, playing with pets, and similar activities are united in this group. Only about 9 per cent of the records mention it, with 181.7 minutes per day per participant and 16.4 minutes as an average for

the group. Eighty per cent of the participants were engaged in it once a day, with 172 minutes; 14 per cent twice, with 225 minutes; the rest three and four times, with 245 and 325 minutes. Here the total time spent increases with an increase of the number of the periods of indulgence.

Of the women 9.4 per cent actively engaged in play and recreation; of the men, 7.4 per cent, with about the same number of minutes (181-179) per day. The younger age-groups, 17-29 years, spent somewhat more time daily than the groups 30 years of age and over. For those beyond 30, the average time spent consistently decreases with an increase of age. Sundays and Saturdays are the days on which these activities were indulged in most, with averages of 210 and 182 minutes, and for Tuesday, 126 minutes.

Observing Games and Spectacles. For these activities (football, baseball, circuses, parades, fires, tennis, dog races, etc.) the individuals were in passive or spectator rôles. Some 3 per cent of the records register participation, with an average of 141 minutes per day, and 6.6 minutes were spent on the average per person per day. Ninety-three per cent took part once a day; the remainder, two, three and four times. Up to four repetitions, the total time spent daily increases from 135 minutes to 390 minutes; after that it decreases for "five times" to 30 minutes only.

Men's participation is much greater (14 per cent with an average of 156 minutes) than women's (2 per cent with an average of 116 minutes). The largest time-interval was spent by the ages 30-34, with 185 minutes; other ages do not manifest any uniform tendency. Tuesdays evidence maximum time spent (176 minutes), followed by Saturdays (149 minutes), and then Sundays (138 minutes).

Walking (for Pleasure). Different from the type of walking analyzed previously is walking when engaged in for its own sake. About 21 per cent of the records register it, with an average of 93 minutes per day per participant and 22.2 minutes per day per person. In the analysis of "walking" as a means of transportation we saw that quite a large per cent were occupied

for a considerable time in that activity. This finding is reinforced by the above data, which show it as one of the most important recreational activities of our group. Thus it is far from being true that walking tends to disappear as a form of general activity and recreation. Our group — and many other groups — still walk a great deal. Ninety per cent of the participants walk once a day, the rest twice and more. Here, up to "three times," the total daily time spent increases from 87 to 184 minutes, after which for the "four times" it drops to 40 minutes.

Of the women 25 per cent, and of the men 21 per cent participated in it, with 91 and 101 minutes respectively as daily averages. Thus there is little difference in this activity between the sexes. The age-groups 17-24, and 50 and more years old walk most — about 100 minutes daily. Sundays and Saturdays, with 106 minutes each, are the favored days for walking; Tuesdays give only 86 minutes.

Picnics. Less than 1 per cent of the records register picnicking, with an average of 2.1 minutes spent daily for the group. The average daily time per participant is 324 minutes. Both sexes participate in about the same proportion, with females spending 345 and men 265 minutes. Saturday and Sunday are naturally the most favored days for this pastime (540 and 358 minutes respectively), whereas Tuesday gives only 90 minutes. Only the ages 17-34 years participated in it, mainly the 17-20 groups; older individuals do not mention it at all.

Refreshments. About 17 per cent of the records mention refreshments, with 26 minutes per participant per day and 4.6 minutes per person per day. Ninety-three per cent indulge once a day, the rest two to five times. After four times, the total daily time spent again drops for "five times" from 55 to 45 minutes. Women indulged much more (19 per cent) than men (10 per cent), with about the same time spent per case. There is no notable difference in this activity in relation to age-groups. Sundays are the favorite days for partaking of refreshments.

Hobbies. Less than 2 per cent mention hobbies, with a very small average time spent daily for each person, 0.6 minutes.

The average time per participant per day is 31.7 minutes. This activity is engaged in once or twice a day. Women participated to the extent of 2.5 per cent, men in only 0.3 per cent. Sundays and Saturdays are the favored days. Of the age-groups, that from 20-24 years spent the most time (50 minutes); younger and older groups spent much less.

Gardening. More than 2 per cent, with 82 minutes per participant per day and 2.2 minutes per person, mention gardening. Eighty-three per cent engaged in it once daily; the rest, two to nine times a day. The total daily time spent reaches a maximum of 390 minutes for five times a day, after which it drops. Men do gardening more than do women — 6 per cent and 2 per cent, and 121 and 53 minutes respectively. Saturdays are used more than any other day for this activity. No uniformity is noticeable in connection with the age-groups.

Indoor Games (other than cards: bowling, chess, crossword puzzles, pool, pool billiards, and so forth). Slightly more than 1 per cent mention indoor games, with 80 minutes per participant per day and 1 minute per person per day. Both sexes participate in them in about the same degree. No uniformity is noticeable in regard to age-groups. Saturdays and Sundays are used much more for playing games than Tuesday is.

Organized Indoor Sports (basketball, ping-pong, squash, etc.). Only about one-fourth of one per cent participated in indoor sports, with 92 minutes daily per participant and 0.2 minutes daily per person. No marked difference is shown by the sexes, nor any uniformity by the age-groups, with the exception that the ages above 44 made no entries. Saturdays and Sundays are the only days of participation.

Organized Outdoor Sports (baseball, croquet, golf, tennis, soccer, etc.). About 3 per cent of the records mention these sports, with 148 minutes daily per participant and 4.6 minutes daily per person. No marked differences between the sexes are noticeable. The age 30-34 spent more time (240 minutes) than any other. Saturdays (412 minutes) and Sundays (177 minutes) are the favored days, while Tuesday is given only 49 minutes.

Unorganized Outdoor Play (archery, bicycling, coasting, canoeing, hiking, hunting, rowing, skating, sailing, etc.). About 1 per cent of the records showed activity here. One hundred and eighteen minutes is the average time per participant per day, 1.5 the average time per person per day; Sundays, then Tuesdays, are the favored days, while Saturday is the least used for that activity. There is no marked difference for the sexes, and likewise no noticeable uniformity for the age-groups.

Let us sum up now the activities of this pleasurable class.

PLEASURABLE ACTIVITIES

ACTIVITY	AVERAGE DURATION PER PARTICIPANT (MINUTES)	AVERAGE DURATION PER MEMBER OF TOTAL GROUP (MINUTES)	PER CENT OF PARTICIPATION
Amusements	100.2	1.3	1
Auto-Riding	174.5	21.7	13
Idling	62.9	18.2	29
Smoking	15.3	1.7	11
Play	181.7	2.1	9
Observing games	141.0	6.6	3
Walking	93.0	22.2	21
Picnics	324.0	2.1	1
Refreshments	26.0	4.6	17
Hobbies	31.7	0.6	2
Gardening	82.0	2.2	2
Indoor Games	80.0	1.0	1
Organized Indoor Sports .	92.0	0.2	Less than 1
Organized Outdoor			
Sports	148.0	4.6	3
Unorganized Outdoor			
Play	118.0	1.5	1
Total		90.6 or 1 hr. 30.6 min.	

Thus, from the standpoint of time, the pleasurable activities occupy per participant a larger place than any other class of activity, but the percentage of participation is comparatively small; therefore, per member of the total group, their rôle is comparatively small. However, taken from the standpoint of time spent as well as the per cent of participation, or the average time per member of the total group, this class is more im-

portant than any other, with the exception of physical needs and economic activities. Since the activities of this group are mainly carried on for their own sakes, as pleasurable activities, we see that a contemporary white-collar proletariat, such as our sample, have not lost a taste for them.

Most of these activities are hedonistic or utilitarian; therefore the considerable (comparatively) time spent in them points to the hedonistic, utilitarian nature of much contemporary behavior in groups comparable to ours. (This conclusion will be reinforced by the next chapter.) Measured by the degree of participation, of all the activities in this class idling, walking, refreshments, auto-riding, and smoking are most important. By average time per member of the total group the most time consuming activities here are walking, auto-riding, and idling. These are all essentially bodily pleasures rather than intellectual ones; here again we find a characteristic that has been noticed before. The relatively large place occupied by walking for pleasure refutes again the notion that walking has almost disappeared among leisure activities. The facts show it is still alive.

In spite of the considerable time taken by the pleasurable activities, it is nevertheless not so long as to arouse anxiety over its duration and over the need for filling this hour and a half of leisure time. If it is filled only by one kind of pleasurable or leisure activity, say by idling or walking, or even auto-riding, an hour and a half is not too long a period by any standard of valuation. If instead of one, two or more different leisure activities are carried on, the time is rather short. All this suggests that *writers on leisure have greatly exaggerated the amount of time available for that purpose by contemporary laboring classes and have baselessly worried themselves over the problem of filling long leisure hours with healthful and commendable activities*. If anything, the total time available is too short for groups such as the one studied here. Hence, the real problem may very well be, not that of finding avocations for the long leisure periods of the proletariat, but rather that of fitting the activities with which they are already familiar into the short intervals at their disposal.

CHAPTER VIII

SUMMARY OF THE OVERT ACTIVITIES

1. *Comparative Importance of the Main Classes.* The results of a study of the time-consumption of each class of activity per member in relation to the whole group, and the proportion of the group participating in it, are summarized in the following table:

OVERT ACTIVITIES

ACTIVITY	AVERAGE TIME SPENT PER MEMBER OF THE TOTAL GROUP DAILY	PER CENT OF PARTICIPATION BY MEMBERS OF THE GROUP
Physiological Needs . . .	11 h. 12.7 m.	About 100
Economic	7 h. 3.0 m.	2-85
Societal	1 h. 20.9 m.	1-55
Religious	8.3 m.	20
Intellectual	1 h. 24.8 m.	2-50
Artistic	24.9 m.	1-2
Love & Courting	8.6 m.	6
Pleasurable	1 h. 30.6 m.*	1-29

*The total of these classes of activities accounts for 23 hours and 13.8 minutes of every twenty-four hours. The remaining 46.2 minutes are spent in various activities, each of which lasted less than five minutes.

If the importance of these activities is determined by the expenditure of time per participant, the pleasurable, societal, economic, and physiological needs are first; if determined by the per cent of participation, then physiological needs, economic, and societal activities are dominant. Again if we judge by the average time per member of the whole group, then physiological needs, and economic activities stand far ahead of the others; the pleasurable, intellectual, and societal come next. Aside from considerations of importance and dominance,¹ the above data give us a fairly definite picture of the amount of

¹ Their criteria may be most diverse and in no way limited by the length of time spent in an activity.

time spent and the per cent of participation in each class of activity; when combined, the criteria give a definite referential basis for estimating the comparative factorial or causative importance of each group of activity in the behavior of our group from the standpoint of time-expenditure. Sociological and psychological literature is full of theories asserting the dominance of one among various factors — economic, religious, societal, intellectual, emotional, physiological, and so forth — as the mainspring in human behavior and the social processes. Unfortunately, these theories rarely go beyond dogmatic and speculative reasons to validate their assertions. As theories they remain uncertain in spite of their plausibility, and are neither proved nor disproved. The above data may be used to test the validity of these theories and may serve as a first step in constructing an empirically valid theory in the field. They show, *first*, that any "monistic" theory of factors in human behavior, no matter what the factor selected, is probably fallacious. It has been seen that each of the eight classes of activities is present and that each occupies a notable place in the human behavior of our sample. In a study of the behavior of other groups, the specific values for time spent in each activity and for the per cent of the participation in it will probably be different from our figures, but, with perhaps a few exceptions, it is unlikely that most of these classes of activities will be absent. *Second*, our data confirm the assertion that the bulk of the human activities of our group is made up of physical need and economic activities so far as time-expenditures are concerned. This means that the overt behavior of our group and possibly most similar contemporary groups is overwhelmingly sensate, hedonistic, and utilitarian, aimed mainly at the satisfaction of physical needs, bodily comfort, and sensate and sensual welfare and happiness generally. We see that out of every twenty-four hours about twenty hours are spent for physical needs, economic, and pleasurable activities which by their nature are sensate, hedonistic, and utilitarian. Moreover, the other activities in which the remaining four out of every twenty-four hours are spent contain several activities which also appear to be

sensate in the setting of our group. Therefore, even if not all their activities and all their time are given to hedonistic, utilitarian, and sensate purposes, much the greatest part (at least twenty to twenty-two hours) is spent for such purposes. This will be borne out further in our study of the motivation of these activities. This result is in line with the theory of the overwhelmingly sensate character of contemporary man, of his behavior, and of contemporary culture and society set forth by the senior author in his *Social and Cultural Dynamics*. *Third*, the data do not support the theories which contend that all factors except the physiological and economic are negligible. Though our group is far from being one of the intellectual or "high-brow" group engaged in intellectual and professional pursuits, nevertheless the above "anatomy" of its behavior shows that such activities as the societal, intellectual, pleasurable, religious, and artistic occupy a very considerable rôle even in it. *Fourth*, our data also call into question those psychological theories of human behavior which consider it as a result of purely "emotional," "affective," "hedonistic," "sexual," or "physiological" drives and forces. *Fifth*, the data throw doubt upon the speculative theories of various residues of human activities. Instead of a vague and conjectural speculation as to what residue is at the source of what activity and what the connection between them is, the data directly answer what the activities are of which the behavior of our group is made up, what time they consume, and what the proportion is of people whose behavior each of them enters.

As almost all the speculative theories of residues and their substitutes (Pareto's theory is the best among these) do not have at their disposal systematic data concerning the activities of which human behavior is woven, what time they take, how frequently they occur, or what per cent of persons participates in each activity, their claims and hypotheses are bound to be vague and conjectural, in spite of all their brilliancy and suggestiveness. Data such as ours on the "composition of human behavior," supplemented by those of their inner motivation (given in Part III), enable us to substitute for vague and un-

certain speculation facts which may make it possible to build up a definite and measurable inductive theory of human behavior and its motivation.

The *sixth* and most important value of the above data is that they give, in terms of time-amount and per cent of participation, a quite definite picture of the "structure" or "composition" of human behavior, the activities it consists of, the per cent of persons participating in it, the time-expenditure for each activity, and the frequency of occurrence in the behavior of the participants. If similar data were available in regard to the behavior of other social groups, we would have solid material for the construction of a comparative and at the same time general theory of human behavior of an inductive character. Such is the first result of the above study — a result which has implications far beyond that of the specific group studied.

2. *The Activities with Inverse Relationship between the Amount of Time Spent in a Given Activity per Period and the Number of Times It Occurs Daily.* In the preceding analysis of each activity, we carefully noted the average number of times for a given activity per day, the average amount of time spent, and the total time per day. We have seen again and again that as the number of periods increases the average time spent per period tends to decrease. This uniformity is witnessed in the following activities: eating, personal care, errands, working, shopping, transportation, walking (destination), household activities (physical and personal), smoking, reading (unspecified), talking, visiting, courting, and playing. Less conspicuously this uniformity is shown also by the following activities: those concerned with health, men's household activities, telephoning, refreshments, social activities, and organized outdoor sports.

Thus, twenty-one activities exhibit this uniformity. They belong, with some exceptions, to the maintenance and chore-type activities. They have to be done, but at the same time they are not particularly attractive, and are unavoidable means rather than ends in themselves. Therefore, those who discharge them

in one period have to spend more time in one period than those who discharge them several times a day.

The above enumeration of activities of this type means that only in these activities is this uniformity found and that it is invalid to extend it to include all other activities.

3. *To a Certain Extent, the Greater the Number of Periods, the Greater the Total Amount of Time Spent Daily.* This uniformity is applicable to almost all the activities studied (excepting a few) and supplements the preceding one. We have pointed out this fact in the analysis of all the fifty-five activities. According to the preceding uniformity, though the amount of time spent in each period of a given activity, when repeated several times a day, may be shorter than when it is performed only once a day, the cumulative time spent tends naturally to be greater when it is performed several times. This cumulative time per day is still greater in those activities which do not exhibit the preceding uniformity.

Here, as almost everywhere else, the Principle of Limits is found to be operative.² In almost all the activities where the uniformity discussed is found, beyond a certain number of periods of indulgence in a given activity the total time spent does not increase but decreases. This unexpected result has been noted in almost all the activities studied above. For each of them the specific number of daily indulgences after which the total time decreases has been exactly indicated, and this number happens to be different for various activities. But the fact that there is a decrease in the total daily time after a certain number of periods per day substantiates the Principle of Limits set forth by the senior writer. What the concrete reasons are for such a uniformity is of a secondary importance here. What is important is the "Principle of Limit uniformity" itself.

So far in this section we have pointed out two uniformities: *first, an increase in the total daily time of a given activity with*

²P. A. Sorokin, "The Principle of Limits," *Publications of the Sociological Society of America*, vol. XXVI (1932), no. 3. P. A. Sorokin, *Social and Cultural Dynamics*, I (New York, 1937), 187-189; II, 53-55, 200, 296-297, 303-304, 345-346, *et passim*.

an increase in periods of engagement per day; and second, a "point of saturation" or "limit" beyond which a further increase in the number of periods leads not to an increase in the total time but to a decrease.

4. *Relationship Between Duration and Frequency of Participation.* For the majority of physiological needs and economic activities (sleeping, eating, personal care, working, transportation, household activities — physical, walking, and shopping) there is a rough direct relationship between the duration per participant and the frequency of participation. Approximately speaking, the more "universal" they are, from the standpoint of participation, the more time-consuming they tend to be. Sleep is the most universal type of activity, and it consumes a longer time per twenty-four hours than any other activity.

This uniformity also holds for a few other activities, while for still others the relationship is rather inverse: (A) very roughly, the longer the time consumed by the activity per participant the less the per cent of participation in it tends to be; and (B) vice versa: the shorter the average time per participant per activity, the higher the per cent of participation is.

To the "A" type belong the following activities: men's household activity, health, social activity, ceremonies, civic activity, with family, school, study, attending lectures, active arts and crafts, theatre, dancing, amusements, picnics, unorganized outdoor play, organized outdoor sports.

To the "B" type belong the following: errands, talking, religious, reading papers and magazines, radio, idling, refreshments.

The rest of the activities are distributed between these types.

5. *Summary of Variations According to Sex.* The activities in which the per cent of the female participation is greater than that of the male are as follows: walking (to a destination), transportation, auto-riding (pleasure), household activities — physical, working, active arts and crafts, amusements, lectures and concerts, correspondence, courting, dancing, entertaining, hobbies, household activities — personal, idling, musical activities, organized outdoor sports, phoning, playing, refreshments,

smoking, walking (pleasure), theatre, and women's indoor activities.

The activities with a greater percentage of the males participating are: radio, reading magazines and papers, cards, civic activities, errands, exercise, gardening, indoor games, men's household activities, miscellaneous, observing games and spectacles, organized indoor sports, playing with children, religious activities, shopping, study, and with family.

It is difficult to attempt to gauge the comparative rôle of the sex differences against the rôle of age and the marital status in the above listings. In these differences the age and marital factors play a hardly less important rôle than the sex factor proper. We must keep in mind that our females are younger, and fewer are married than is true of males in our sample. Courting, dancing, the theatre, and a goodly number of the organized recreational type of activities are participated in more frequently by women, whereas reading, cards, playing with children, the unorganized type of leisure activity appears to be more popular among the men.

In comparing the *average amount of time spent in the various activities according to the sex of the subjects*, one may observe that men show a larger average of time spent on thirty-two of the activities, women a larger average of time spent on twenty of the activities.

The twenty activities on which women spent a longer average amount of time are as follows: sleep, personal care, walking (to a destination), household activities — physical, active arts and crafts, courting, entertaining, errands, exercise, hobbies, household activities — personal, indoor games, organized indoor sports, organized outdoor sports, picnics, phoning, playing with children, religious activities, smoking, and the theatre. Except for one or two activities, the male subjects reveal a longer span of time spent on all of the other activity categories.

On the basis of these facts we may state that the female subjects of our study reveal a more varied type of behavior and that the male tends to spend more time on those activities in which he participates. The results cannot be regarded as con-

clusive, however, since the sample is small, and the proportion of men much less than that of women. (See Appendix, Table A.)

6. *Summary of Variations According to Age.* (A) Younger age-groups participate in the following activities *more frequently*: auto-riding (pleasure) courting, dancing, refreshments, theatre, and walking (pleasure). The older subjects participate more in such activities as: working, radio, reading, correspondence, errands, men's household activities, and shopping.

Thus the older subjects, who are married in the majority of cases, participate more in the chore-type activities, whereas the younger subjects participate more in the recreational or pleasurable activities. Leisure activities which the older subjects list with greater frequency are radio and reading.

(B) The activities in which the younger subjects tend to spend more time than the older persons are: sleep, personal care, amusements, entertaining, miscellaneous, organized outdoor sports, playing, playing with children, shopping, visiting, and walking (pleasure). The older subjects spend longer average periods of time on the following activities: transportation, household activities — physical, talking, radio, reading, health, with family, and women's indoor activities.

Once more we note that the older subjects appear to be more concerned with the chore-type activities, whereas the younger subjects are concerned proportionately more with the pleasurable activities. Worthy of comment is the fact that the younger subjects spend a longer average amount of time on sleep than do the older subjects, and also that the younger subjects spend a longer average amount of time on personal care. This accurately reflects the common assumption that young people, especially women, are more concerned about their personal appearance, and also about their personal welfare, than are older people.

We note that the younger subjects reveal a longer span of time spent in playing with children. Probably the older subjects, if they have children, have children already matured with whom there would be little opportunity to play. On the other

hand, younger people, and frequently unmarried people, must often take care of their younger siblings or, not having the burden of caring for children, secure a greater delight and exhibit more patience in playing with them.

These comparisons, however, cannot be considered conclusive, since the older age-groups are not adequately represented in the sample. (See Appendix, Table A.)

7. *Summary of Variations According to Three Selected Days of the Week: Weekly Pulsation and Rhythm of the Activities.* In this study we have noticed several times a marked difference in the character and duration of activities on Sundays, Saturdays, and Tuesdays (Tuesday was taken as a typical weekday). These differences suggest the existence of a weekly rhythm, on the one hand in the behavior of the participants and on the other in social life. Both flow differently on weekdays, on Saturdays, and on Sundays. Each day thus has its own physiognomy in the behavior of the individual and in the tempo, rhythm, and character of social and cultural processes. In a clearer form this can be seen from the following summarized variations in the activities on each of these days.

(A) *As to the per cent of participation in specified activities,* Tuesdays reveal a comparatively larger participation in the following activities: working and being associated with work, transportation and walking (to a destination). Talking and playing with children are also listed most frequently on Tuesdays. The least frequent activities on Tuesdays are household—physical, entertaining, organized outdoor sports, and telephoning.

The activities listed most frequently on *Sundays* are radio, amusements, ceremonies, courting, idling, reading magazines and papers, playing, refreshments, unorganized outdoor play, visiting, with family, observing games and spectacles, picnics, religious activities, theatre, and walking (for pleasure). This list is comprised of pleasurable, recreational, and socio-religious activities. Thus Sundays for our subjects are days devoted to visits, ceremonies, and religious activities. The activities least frequently discharged on Sundays are active arts and crafts,

errands, the reading of books, shopping, and women's indoor work.

Activities participated in most on *Saturdays* are: cards, gardening, altruistic household activities (personal), dancing, correspondence, auto-riding (for pleasure), and men's household activities.

In conclusion we note, as might have been anticipated, that the weekday is typified by a large number of activities associated with work, that Sundays are largely days of recreation, ceremonies, leisure pursuits, religious activity, and visiting (a pattern of behavior for Sundays that has frequently been thought to have disappeared with the Victorian era), and that Saturdays are either days for odds and ends of behavior or for the more active type of recreation and pleasurable pursuits.

(B) A study of variations in *average amount of time spent daily on the various activities according to the three selected days of the week*, shows us that the activities with a longer average amount of time spent on Tuesdays than on either of the other two days are working, playing with children, civic activities, courting, household activities — personal, and idling. The activities with the shortest average time spent on Tuesdays are auto-riding (for pleasure), talking, radio, entertaining, picnics, playing, and social activities. This together with the data on activities most participated in on Tuesdays, gives a characteristic portraiture of Tuesday as a typical weekday.

Activities showing the greatest average span of time on *Sundays* are eating, musical, religious activities, study, being with family, transportation, reading (all three sub-divisions), cards, ceremonies, exercise, health, phoning, and refreshments. They also were listed more frequently on Sundays than on other days and are therefore predominantly Sunday activities.

The activities with the longest average duration on Saturdays are walking (to a destination), men's household activities, observing games and spectacles, organized indoor sport, shopping, women's indoor activities. Next are household activities — physical, lectures and concerts, correspondence, dancing,

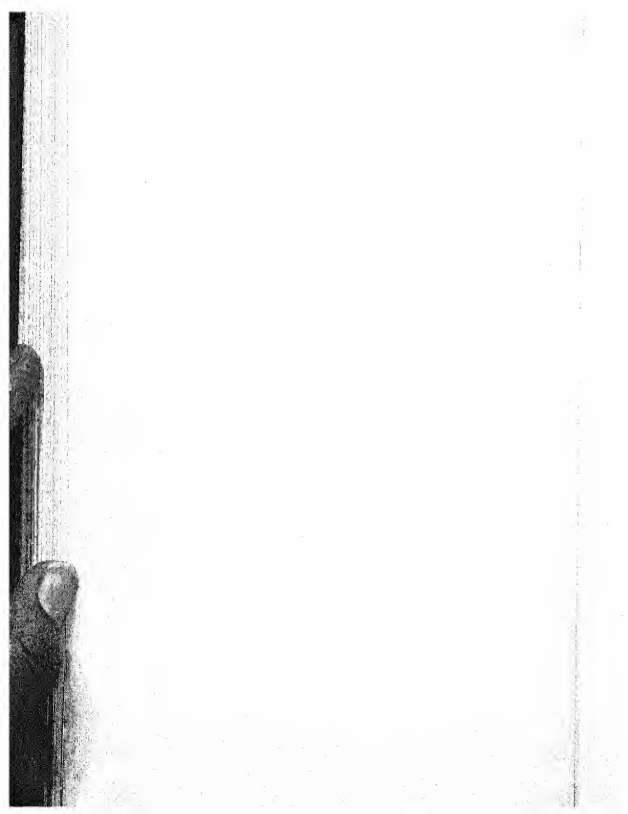
errands, gardening, hobbies, and walking (pleasure). Most of these also are participated in on Saturdays more than on any other day and therefore are typical weekend activities.

The preceding remarks give the essential characteristics of the rhythm and variations in behavior in the social life of our group according to the selected days of the week.

Several less regular uniformities were noted in the process of the analysis of each activity. These, with the summarized results, contribute something tangible toward an understanding not only of the behavior of the group studied but also of the much more general problem of human behavior considered in the nexus of external, overt activities. This overt aspect is, however, only one aspect of human conduct; its other aspect, no less important, is inner. One of the most important "mysteries" of this inner aspect is the motivation or "reason" for each of the overt activities performed. Therefore let us turn to a study of this aspect of the behavior of our group. Such an inquiry may contribute a great deal not only to the cognition of the motivation of our group but also to the problem of the motives or reasons for human activities in general.

PART III

MOTIVES OF OVERT ACTIVITIES



CHAPTER IX

INTRODUCTORY

TO ASSUME that science is interested in the "how" but not the "why" of overt activity is to stop short of an adequate understanding of human behavior. Psychologists and sociologists, no less than detective-story writers, philosophers, and humanitarians, are concerned with the fundamental problems of motivation. Mountains of treatises and studies have been published, and the boundary of our knowledge on this subject has been considerably extended, but the domain of our real knowledge is still very limited. Not only are essential details lacking, but also there is an enormous discrepancy of claims which reveals a marked absence of uniformity in understanding and interpretation.

The purpose of this part of the study is to add a bit to the existing knowledge of the problem. The treatise is not so much a theoretical contribution — of these there is already a plethora — as an analysis of a considerable body of purely empirical data consisting of the actual motivation of the fifty-five forms of activities engaged in by the members of our group. This type of material is rather scarce and difficult to obtain; for these and other reasons, therefore, what is presented here may be of some value not only for the interpretation of the behavior and psychology of our group but also for an understanding of the general problem of motivation.

For a period of two weeks, 103 members of the group were asked, in addition to indicating their activities, to designate in a special column a motive or motives for each action. They were left quite free in the matter of selection, wording, and so on, and no classification or basis for selection was furnished them. In other words, they were left entirely upon their own resources, for it was considered preferable not to bias them

with any set of classifications or theories and thereby influence their own spontaneous characterizations.

In this way we secured an autobiographical and speech-reactional "motivational record" for each activity. This does not mean, of course, that the motive given in every case is to be accepted as the actual "cause." We know well enough how often each of us is deceived by the imagined cause and how frequently it differs from the real cause; yet such confusion does not nullify the value of what individuals think the motive of their specified activity. Such autobiographical and speech-reactional material is indispensable and when handled with discrimination is as trustworthy as any other so far as motivation is concerned. In specific circumstances, as in the instance of a crime, the person involved may lie by giving a motive entirely different from the real one known to him. Except in pathological individuals, however, falsification is usually produced by the pressure of circumstances. In our cases there was no ulterior motivation of this sort, and in addition the answers were protected by the cloak of anonymity. Too, the activities were of a routine daily character, and there was no special reason on this score for an intentional disfiguration of the picture of motivation as it appeared to the person himself.¹

Again this does not preclude the possibility that in many cases spurious motives were indicated simply because a blank space was being filled on the schedule. We know that many activities are performed without any conscious "motive," and that in many situations individuals simply act.² Under such circumstances some of the motives indicated may be *ad hoc* merely because the question had to be answered. Granting that this is true, the answers still have a symptomatic value and in-

¹ As a matter of fact, in many of the schedules there was manifested a surprising degree of frankness and candor; even for sexual activities there was often a conspicuous amount of detail in the matter of motivation and self-analysis.

² This does not mean that there are no causes for such an action. We assign causes for the actions and reactions of even the simplest organisms, like paramecia, but we have no ground for expecting any conscious motivation of such organisms, for the simple reason that they are devoid of clear consciousness, mind, or mentality. In a more complex form something similar takes place not only in reflexes and automatic reactions but also in many very involved human actions.

dicade at least how the subject regarded motivation. In any case, the proportion of such speech-reactions could hardly have been very large, for the not inconsiderable number of answers amounting to "do not know" or "cannot indicate" or those which left the question unanswered in regard to this or that activity indicates a high degree of reliability.

To sum up: the empirical material presented here is of unquestionable value for studying autobiographical motivation. It gives the inner picture of activity as seen by the performers and in addition has broader implications.

Each motive indicated had to be classified in one of a limited number of groups formulated for quantitative analysis. This grouping was the result not so much of any logical principle as of the practical necessity for creating a limited number of classes that would embrace the majority of the stated motivations. Each of these classes can be and will be re-grouped several times in accordance with the various aspects of motivation to be discussed. No pretense is made that each class is homogeneous or pure, but at the same time it is maintained that the items grouped together are definitely related.

The following classifications may serve as a starting point:

CLASSES OF MOTIVES

- I. *Societal Motives*: indicating that the respective activities are done for the sake of others and for imperatives or reasons coming from the society and others
 - (a) Social (mainly altruistic) motives
 - (b) Custom
 - (c) Moral, juridical, and religious duties
- II. *Personal Motives*: indicating that the respective activities are done for the sake of the person himself (or herself) for predominantly utilitarian or hedonistic objectives
 - (a) Physical: motives of satisfaction of needs that are essentially physical and physiological
 - (b) Personal comfort: motives of securing, maintaining, or increasing personal comfort of various kinds
 - (c) Economic motives
 - (d) Curiosity motives (Pavlov's "What is it?" or W. I. Thomas's "desire for new experience")
 - (e) To fill time and for variety's sake
 - (f) Habit
- III. *Motives of Means to Various Ends* (Preparatory and Consumatory)

IV. *Imposed by the force of circumstances*V. *Not given and not classifiable*I. *Societal Motives*(a) *Social*

To be agreeable, to help someone, to inform someone, to greet co-worker, to care for someone, to please someone, accommodate someone, comply with someone's request, to spare someone the task, see someone, to be kind, to make someone feel comfortable, to talk things over, exchange ideas, to be of service, to give someone a rest, to visit, to mail a letter, to be useful, to save someone a job, someone waiting, was called upon, to be sociable, to meet someone, because had visitors, to make child clean, to take child out, not to cause worry, promised, someone was absent, to be courteous, to be polite, to call for friend, for love of someone, was invited, requested to, mutual interests, to discuss, had an appointment

(b) *Custom*

Proper thing to do, convention, custom, customary

(c) *Moral, juridical, religious*

Duty, to show respect, spiritual consolation, religious satisfaction, spiritual profit

II. *Personal Motives*(a) *Physical*

Rest, thirsty, satisfy appetite, tired, for refreshment, sustenance, nourishment, to relax, could do no more (tired), sanitary, for health, sanitation, to exist (with meal), to save walking, because of illness, exercise, was hot, didn't feel well, needed washing (pertaining to person), for sun bath, to retire, for energy, feel tired or sleepy, to clean up, arrived early

(b) *Personal Comfort*

To please self, for self-satisfaction, felt like it, wanted to, hobby, listen to radio favorite, for amusement, for entertainment, for enjoyment, for pleasure, like the effect, prefer—preference, felt sulky, for comfort, to make place comfortable, not in a proper mood, for recreation, tempted, to make self presentable, to make self neat, to save time, to feel clean, felt dirty, to improve appearance, interested, to have a haircut, felt better, to make it look better, to wear, to have clean linen, to have clean dishes, to freshen up, to refresh oneself

(c) *Economic*

Research, earn a living, cheapest means, for business, to get pay, to save carfare, to cash check, to plan budget, to wait for pay check

(d) Curiosity Motives .

Watched passerby, to know something, for information, to hear, to get a thrill, to get news, to see something, for experience, to be informed, to keep track of events

(e) To fill time and for variety's sake

Easiest way, for a change, break monotony, opportunity, nothing else to do, to pass time, had plenty of time, only short distance, for variety, most convenient time

(f) Habit

Habit, usual way, ordinarily do, always do, usual work, usual routine, go once a week when able, customary (meaning habit), matter of form, as a rule

III. *Motives of Means to Various Ends* (Preparatory and Consummatory)

To decide, to prepare something, in order to do something, to complete something, to get something, to make arrangements, to look for something, started home, to continue, for the evening, to eat, for supper, to finish, to complete, to bring up to date, to be on time, had a date, finished, to get ready for work

IV. *Force of Circumstances*

Assigned to do task, no other choice, something had to be done, only means, luck, forced to, couldn't do anything else, required to do so, had to be done, necessary, had to, because it was raining, too far to walk, was important, it was time to, required of me, daily task, required duties, morning duties (required), needed it

As has been mentioned, this grouping of the motives is not a result of a logical classification but is conditioned mainly by the aim of grouping most of these, without violating the concrete wordings of each motive, into a working number of classes. Such a purpose seems to be served, and whether other and more important purposes can be helped by it we shall see later. It is enough to say here that through re-grouping these classes, several problems in the field of motivation may be elucidated.

Before we turn from these preliminary notes to the study of the problem itself, let us recall the well-known fact that not only do different persons give different motives for the same overt activity, but also not infrequently the same person, during the same day, gives two or more different motives for the same activity. Foreseeing this and actually finding such diverse motivation in our tables and computations, we tabulated sepa-

rately the cases where only one motive was given for a given activity; where two different motives were given during the same day; and finally, where three different motives were indicated. For each of the fifty-five activities respectively, three tables of motives were computed: with one motive; with two; and with three. Thus, if an individual listed "personal comfort" for the activity of "personal care in the morning," "social motive" for it in the afternoon, and "habit" in the evening, all three motives for the same activity during one day were tabulated. The actual tables, for all these fifty-five activities are not given in this work; but their essential data will be used and analyzed subsequently.

CHAPTER X

SUMMARIZED RESULTS OF THE STUDY OF MOTIVATION

1. *Multiplicity and Diversity of Motivation.* Various individuals ascribe different motives to the same overt activity. A glance at the data of personal care activity shows that 63.4 per cent of the schedules list the motive of personal comfort; 18.7 per cent that of habit; 6.9 per cent, the motive of physical needs; 3.6 per cent that of custom; and still smaller percentages indicate practically all of the motives given in our above classification. A small per cent (1.6) do not give any motive, or else one that is unclassifiable. Similar diversity of the motives is found in all fifty-five forms of activities studied, as there is not a single activity which is motivated by one and the same reason for all the members of our group. The amplitude of diversity in the motives fluctuates, as we shall see, for different activities, but the fact of diversity is given in all fifty-five activities, without any exception whatsoever. This means that the same activity is motivated differently in various persons, or that *the same motive is ascribed to different overt activities by various individuals*. This observation is fully sustained by the tables concerning the fifty-five activities; for example, the same motive, "custom" or "physical need," appears in a large portion of these activities. For instance the motive of physical needs averages 6.9 per cent in the activity of personal care, 58.9 per cent in eating, 10.5 per cent in walking (as a means of transportation), 1.8 per cent in transportation activity, 8.4 per cent in auto-riding for pleasure, 9.2 per cent in the household activity and so on.

All this means that without a careful examination of each case one is not entitled to deduce a set motive from a given activity, or *vice versa*. The relationship between these two variables is somewhat loose. One individual keeps himself clean

for his personal comfort; another, because of religious, customary, or social demands and duties; a third, from habit; a fourth, to be attractive to his or her sweetheart; a fifth, just because there is nothing else to do and the activity fills in the time; and so on. With a slight variation this is applicable to all the activities studied. And too, the same motive, let us say the pressure of custom, now manifests itself in personal care, in eating, in transportation, in work, in talk, in reading, in card playing, in idling, and so on.

2. *Diversity of Motivation in the Same Individual.* Not only do different persons ascribe various motives to the same overt activity, but also in a considerable number of cases the same individual ascribes different motives to the same activity during the same day. And frequently enough, the same motive "prompts" the same individual to perform different overt activities, which fact is readily seen in the data on page 97 concerning a number of selected activities.

These figures show clearly the diversity of motives ascribed by the same individuals to the same activity. We tabulated only three different motives, but in a number of the cases the variety of motives was still greater. In the activities such as active arts and crafts, cards, ceremonies, courting, errands, exercise, indoor games, musical activities, observing games, phoning, refreshments, school, study, visiting, there are only two different motives — and no third — indicated by the same individual. This is probably due not so much to a closer relationship between the motives and activity as to the limited number of cases in almost all these activities. If the number were larger, in some cases a third motive would probably be ascribed to them by the same individual. This assumption is supported by the fact that in all activities where the number of the cases is much larger there is practically no single case where a third motive is not given by the same individual. Moreover, in these activities (like personal care, eating, walking, transportation, household activities, talking) the proportion of those giving two different motives is comparatively high — from 30 to 95 per cent. So far as motives of *different* persons for the

DIVERSITY OF MOTIVATION

ACTIVITY	CASES WITH ONE MOTIVE ASCRIBED		CASES WITH TWO DIFFERENT MOTIVES ASCRIBED BY THE SAME INDIVIDUAL DURING THE SAME DAY		CASES WITH THREE DIFFERENT MOTIVES ASCRIBED BY THE SAME INDIVIDUAL DURING THE SAME DAY	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Personal Care	1436	100	1377	95	858	59
Meals	1430	100	641	45	102	7
Walking	1258	100	758	60	270	21
Transportation	999	100	384	38	50	5
Auto-Riding (Pleasure)	166	100	40	24	4	2
Household (Physical)	1012	100	481	47	167	16
Work	877	100	135	15	18	2
Talking	834	100	249	30	62	7
Radio	508	100	67	13	5	1
Reading (Magazines)	744	100	144	19	14	2
Reading (Books) ...	241	100	26	11	3	1
Active Arts and Crafts	14	100	3	21	..	..
Attending lectures ..	20	100	2	10	1	5
Cards	121	100	11	9	..	..
Correspondence	81	100	10	12	1	1
Ceremonies	16	100	1	6	..	..
Courting	46	100	3	7	..	..
Dancing	52	100	1	2	1	2
Entertaining	62	100	7	11	1	2
Errands	136	100	11	8	..	..
Exercise	13	100	..	..	..	..
Gardening	56	100	12	21	1	2
Health	51	100	2	4	1	2
Hobbies	49	100	8	16	1	2
Household (Altruistic)	113	100	24	21	7	6
Idling	445	100	78	17	14	3
Indoor Games	25	100	..	..	..	..
Men's Household	47	100	12	26	3	6
Musical	45	100	6	13	1	2
Observing Games	74	100	4	5	..	..
Phoning	90	100	6	7	..	..
Play	81	100	16	20	1	1
Refreshments	232	100	5	2	..	..
Religious	282	100	36	13	8	3
School	3	100	1	33	..	..
Shopping	396	100	42	11	3	1
Smoking	165	100	45	27	5	3
Social	34	100	2	6	1	3
Study	40	100	4	10	..	..
Theatre	167	100	5	3	1	1
Visiting	225	100	11	5	..	..

same activity are concerned, they are quite varied, as was mentioned above.

The above two propositions being validated, a few general inferences follow:

First, mere behavioristic study of the overt actions of individuals does not, as a rule, permit one to say anything definite about the motives of these actions. Apparent identity of the overt actions of individuals does not necessarily mean identity of motivation. Insofar as motivation is the inner aspect of the action and certainly relevant in its psycho-social meaning, a classification of actions by their mere external appearance would put into one class actions profoundly different in their inner aspect, and *vice versa*.¹

Second, a mere study of the motives of a given activity of various individuals does not lead to deductive reasons for the kind of overt activity in which the given motive manifests itself. The same motive does manifest itself, even within the same individual, in the form of different overt activities. Hence, a classification of human actions by motives only is bound to place in one class many overt actions profoundly different from one another, and to place in different classes many overt activities essentially identical in their motivation.

Third, the inferences above mean that either purely behavioristic or purely "introspective" study of human activities is incomplete and one-sided, and does not give an adequate picture of human conduct and activities. Both aspects have to be considered in order to obtain an adequate understanding of the activity of a given person.²

Fourth, what is said about the inadequacy of either the purely

¹From this the validity of our criticism of the procedure used in the otherwise valuable study of Dr. E. L. Thorndike (outlined in Chapter II) must be clear.

²In this respect, the old and dominant conception of human conduct, especially as it is incorporated in moral, religious, and juridical codes and practices — the conception which took into account the overt activity as well as its motives, for instance, that which categorized actions as sinful, criminal, or virtuous — was much more adequate than the supposedly modern (purely behavioristic or purely "introspective") conceptions fashionable in some circles of psychologists and social scientists.

behavioristic or introspective grasp of human activities is applicable, with proper variation, to the following schematas for the study of human conduct:

(a) *a certain instinct, reflex, or drive — and certain overt activities assumed to be manifesting a given instinct or drive;*

(b) *a certain residue and its speech-reactional or other derivation, so far as the residue is taken as the inner driving force and the specific derivations (speech-reactions) as its manifestations (particularly Pareto);*

(c) *a certain "main wish" and a certain activity allegedly viewed as its manifestation (W. I. Thomas);*

(d) *a certain "main interest" and a certain activity allegedly assumed to be its manifestation (Ratzenhofer, Marx, and many other theorists).*

What is said about the loose relationship between motives and overt activities can be said, with a slight modification, about all the above and many other theories which assume, implicitly or explicitly, the existence of a definite, specific, and close relationship between a certain instinct, wish, residue, interest, or drive (A) and a certain form of overt activity (B):

B as a function of A

C as a function of D

M as a function of N

and so on. In fact, A (like certain of our motives) can and does manifest itself with different and often with the same individuals not only in B but also in G, J, K, and other activities; and *vice versa*, the activity M is often a manifestation not only of the "motive," "instinct," "drive," "wish," "residue," or "interest" N, but also of A, D, P, R, and many others.

In brief, *all these theories assume the existence of a close, definite, and specific relationship between their two variables; but in fact the relationship appears to be much looser, less specific, and less definite.* It is not a "monogamic" relationship but a "polygamous" one, each variable of the pair being connected with several of the variables in the equation. If this mistake were not made over and over again, and if its methodological importance were not so great, this criticism would have

been unnecessary, but in view of the wide prevalence of this error it cannot be made too often.

3. *The Main and Subsidiary Motives of Each of the Forty-Eight Activities.* In a number of activities there is a noticeable relationship between motives and overt activities similar to that of polygamous marriages, where side by side with several concubines there is the chief wife as "*primus inter pares*." In other words, in certain activities a particular motive appears to be dominant, though neither unique nor exclusive; while on the other hand, certain motives are entirely absent in various forms of overt activities. Both phenomena, domination and absence, suggest the existence of some tangible relationship or congeniality between certain specified motives and activities. Theories of instinct, drive, residue, wish, interest, and the like contain some truth in *potentia*, though rarely in actuality, because most of them do not attempt to verify inductively the set of activities ascribed by them to this or that instinct, wish, or residue. This domination and absence of motives for our group can be seen in the data given above of the motives and their percentage in the personal-care-activity. A mere glance at the data (with one motive) shows that in 63.4 per cent of all cases personal comfort is listed as the motive; in 18.7 per cent of all cases, habit is listed; while all the other motives play a more modest rôle, the motive of curiosity being entirely absent. If we consider the supplementary second and third motives, then to the dominant motive of personal comfort and habit we must add the motives of physical need and preparatory as being operative in the personal-care activities.

Now, after this example, the abbreviated data on pages 101 to 109 taken from similar tables for each of forty-nine activities will be comprehensible.

This anatomy of motivation of forty-nine overt activities shows clearly the points discussed. First of all, in "Motives Absent," we see that in forty-eight activities several of the motives of our not too detailed classification are entirely lacking; only in one activity — religious — are all the motives present and none lacking. In the column of "Dominant Motives,"

there are one or two motives that are quite dominant in all forty-nine activities. The connection or congeniality between a certain activity and certain motives, and the lack of any relationship between the activity and certain other motives are demonstrated by the above figures. They show, too, that *there is no single overt activity motivated by only one reason*; and, *vice versa*, there is no single motive that is connected with only one form of overt activity. *Each of our motives, without a single exception, is operative in several and diverse overt activities.*

This shows the element of truth in the criticized theories of a specific connection of a certain motive-instinct-wish-drive-interest-residue with a specific form of overt activity, and also the element of falsity in all such theories. Some relationship between the two variables is undoubtedly present, but it is loose, polygamous, or pluralistic.

4. *Types of Motive-Structure of Various Overt Activities.* Our findings warrant going still further than most of these theories go, even in the part in which they are valid. As has been said, these theories rarely try to verify inductively the claimed relationship between a certain activity and its inner instinct-drive-wish-interest-residue. The data above give an answer to the following questions for our group: *first, what are the dominant motives of each of the forty-nine activities, and to what extent is each present? Names of the dominant motives (and also the absent ones) for each activity answer the first question; and the percentages give a measure of the degree of domination.* For this reason, these data, however defective they may be in several respects, represent a step forward in comparison with speculative conjectures of the relationship between the instinct-drive-residue-wish-interest and certain forms of overt activity. These conjectures hardly if ever attempt to give any quantitative index of the dominant rôle of a given instinct-residue-wish, etc., in a given overt activity viewed as its function. Our figures give such indices of domination, not to mention a definite enumeration of the dominant motives involved for each of the forms of activities studied.

MAIN AND SUBSIDIARY MOTIVES

ACTIVITY	DOMINANT MOTIVES, IN PERCENTAGE *	SUPPLEMENTARY MOTIVES †	MOTIVES ABSENT IN ALL THREE TABLES
Eating	Physical need 58.9 Habit 27.3	Force of circumstances	Curiosity Economic
Sleep	Physical need 82.9 Force of circumstances 3.3 Personal comfort 2.9	Identical with Dominant	Social Moral Curiosity Economic
Walking (Destination)	Preparatory 40.6 Force of circumstances 11.6 Physical need 10.5	Force of circumstances	Custom Moral-religious
Transportation	Preparatory 52.7 Force of circumstances 14.8 Social 8.0	Habit Physical need	Custom Moral-religious Curiosity
Auto-Riding (Pleasure)	Personal comfort 65.7 Physical need 8.4	Preparatory	Custom Moral-religious Curiosity Economic
Household (Physical)	Social (altruistic) 52.6 Personal comfort 11.5 Habit 10.9	Physical need Force of circumstances Preparatory	Custom Curiosity
Work	Force of circumstances 65.5 Economic 10.8 Habit 4.7	Preparatory	Curiosity Physical need

* Motives equal 100 when only one is given.

† When two and three are given.

Talking	To fill time	31.7	Physical need	Economic
	Social	25.5		
	Personal comfort	21.0		
Radio	Personal comfort	59.1	Physical need	Custom
	Fill time	24.0		Economic
	Curiosity	7.3		
Reading (Magazines and Papers)	Curiosity	39.9	Physical need	Moral-religious
	Personal comfort	28.2		Economic
	To fill time	16.4		Custom
Active Arts and Crafts	Personal comfort	35.7	Identical with Dominant	Custom
	Preparatory	14.3		Moral-religious
	Social	7.1		Curiosity
	To fill time	7.1		Habit
				Physical
				Economic
				Force of circumstances
Attending Lectures	Personal comfort	70.0	Identical with Dominant	All other motives absent
	Social	5.0		
Cards	Personal comfort	57.7	Physical need	Custom
	To fill time	16.5		Moral
	Social	15.7		Curiosity
				Economic
				Force of circumstances
Correspondence	Social	40.7	Preparatory	Preparatory
	Force of circumstances	17.3		Habit
	Personal comfort	11.1		Economic

MAIN AND SUBSIDIARY MOTIVES (continued)

ACTIVITY	DOMINANT MOTIVES, IN PERCENTAGE *	SUPPLEMENTARY MOTIVES †	MOTIVES ABSENT IN ALL THREE TABLES	
			Moral-religious	Moral-religious
Ceremonies	Social		31.3	Personal comfort
	Custom		12.5	To fill time
	Habit		6.3	Curiosity
Courtship	Personal comfort			Physical
	To fill time			Economic
	Habit			Force of circumstances
	Social			Preparatory
Dancing	Personal comfort	Physical need		Moral-religious
	To fill time		34.8	Economic
	Habit		13.0	Preparatory
	Social		13.0	
Entertaining	Personal comfort	Custom	10.9	Moral-religious
	To fill time		86.5	To fill time
	Social		5.8	Curiosity
				Physical
Errands	Social			Economic
	Force of circumstances			Force of circumstances
	Preparatory			Preparatory
				Custom
Social	Personal comfort	Custom		Curiosity
	To fill time		37.1	Economic
	Social		22.6	
	Force of circumstances		6.5	Custom
Preparatory	Personal comfort	Habit	36.0	Curiosity
	To fill time		18.4	Physical
	Social		7.4	Economic

* Motives equal 100 when only one is given.

† When two and three are given.

Exercise	Habit	69.2	Habit	All other motives
	Physical need	30.8		
Gardening	Personal comfort	33.9	Curiosity	Custom
	Physical	32.1		Moral-religious
	Force of circumstances	12.5		Habit
				Economic
Health	Physical need	47.1	Identical with Dominant	Custom
	Force of circumstances	19.6		Moral-religious
				Habit
				Curiosity
				To fill time
				Economic
Hobbies	Physical need	61.2	Identical with Dominant	Custom
	Personal comfort	14.3		Moral-religious
	Force of circumstances	10.2		Economic
Household (Personal)	Social (altruistic)	61.1	Force of circumstances	Custom
	Physical need	7.1		
	Preparatory	8.8		
Idling	Physical need	52.4	Identical with Dominant	Custom
	Personal comfort	8.1		
	For change	8.8		
	Forced	6.5		
Indoor games	Personal comfort	64.0	Identical with Dominant	Custom
	For change	16.0		Social
				Moral-religious
				Economic
				Forced
				Preparatory

MAIN AND SUBSIDIARY MOTIVES (continued)

ACTIVITY	DOMINANT MOTIVES, IN PERCENTAGE *	SUPPLEMENTARY MOTIVES †	MOTIVES ASCENT IN ALL THREE TABLES
Men's Household	Personal comfort	Preparatory	Custom
	Forced		Moral-religious
	Social		To fill time
Musical	Physical need	To fill time Preparatory	Economic
	Personal comfort		Custom
	Forced		Moral-religious
			Habit
Observing Games and Spectacles	Personal comfort	Curiosity	Curiosity
	To fill time		Physical need
			Economic
Organized Indoor Sport	Personal comfort	Identical with Dominant	Custom
	Social		Moral-religious
			Habit
Organized Outdoor Sport	Personal comfort	Social	Economic
	Physical need		All other motives
			Moral-religious
			Habit
Phoning	Personal comfort	Personal comfort Economic To fill time	Curiosity
	Social		Economic
	Preparatory		Forced
			Preparatory
			Custom
			Moral-religious
			Physical need

* Motives equal 100 when only one is given.

† When two and three are given.

Picnics	Personal comfort Social For change	50.0 16.7 16.7	Identical with Dominant	Custom Moral-religious Habit Curiosity Physical need Economic Forced Preparatory
Play	Personal comfort Physical need	56.8 17.3	To fill time Habit	Custom Moral-religious Curiosity Economic Forced
Play with Children	Social Habit Personal Comfort	51.1 21.3 19.1	Custom	Moral-religious Curiosity Economic Forced Preparatory
Reading (Books)	Personal comfort To fill time Physical need	57.7 17.8 10.8	Curiosity Preparatory	Custom Economic Forced
Refreshments	Physical need Personal comfort Social	52.6 20.7 6.0	Identical with Dominant	Custom Moral-religious Curiosity Economic
Religious	Moral-religious Habit Personal comfort	42.4 33.3 5.0	Identical with Dominant	None absent

MAIN AND SUBSIDIARY MOTIVES (continued)

ACTIVITY	DOMINANT MOTIVES, IN PERCENTAGE *	SUPPLEMENTARY MOTIVES †	MOTIVES ABSENT IN ALL THREE TABLES	
			All other motives	
School	Personal comfort	Curiosity	Curiosity	Custom
	Curiosity			
Shopping	Preparatory			
	Forced	Preparatory		
	Social			
	Personal comfort			
Smoking	Personal comfort	Habit		Custom
	To fill time			Moral-religious
	Physical need			Curiosity
				Economic
Social				Forced
				Preparatory
	Personal comfort	Preparatory		Custom
	Social			Moral-religious
Study				To fill time
				Curiosity
				Physical
				Economic
	Preparatory	Preparatory		Social
	Personal comfort			Custom
	Moral duty			Habit
	Curiosity			Physical need
				To fill time

* Motives equal 100 when only one is given.

† When two and three are given.

Theatre	Personal comfort To fill time	67.1 7.2	Curiosity	Custom Moral-religious Economic Forced All other motives
Unorganized Out- door Play	Personal comfort Physical need	73.3 26.7	To fill time	
Visiting	Social Personal comfort To fill time	47.6 20.0 5.8	To fill time	Custom Moral-religious Curiosity Economic
Walking (Pleasure)	Physical need Personal comfort To fill time	52.1 21.1 8.6	Preparatory	Custom Moral-religious Economic All other motives
With Family	Personal comfort To fill time	50.0 50.0	Personal comfort	
Women's Indoor	Forced Personal comfort Preparatory	36.7 21.5 16.5	To fill time Social	Custom Moral-religious Habit Curiosity

Thus far they have a purely descriptive value for our group and in addition a significance that is of more than immediate relevance.

A study of the data shows at once that the motive-structure of each of the forty-nine activities is different, first, in the *number of dominant motives, in the degree of domination of the main one or two motives, and in the number of motives absent*; second, *in the qualitative character of the dominant motives*.

From the standpoint of the *number of the dominant motives* and the *degree of domination by the dominant motives*, the activities make a kind of graduated scale beginning with those dominated "monarchically" — in 63 per cent or more by one motive — and ending with the activities motivated by a larger number of the main motives without any "monarchical" motive towering over the others involved.

(A) To the first class of *activities dominated conspicuously by one main motive (in 63 per cent or more)* belong such activities as: sleep, personal care, eating, auto-riding (for pleasure), work, attending lectures, dancing, exercise, indoor games, observing games and spectacles, organized indoor and outdoor sport, telephoning, the theatre, unorganized outdoor sport.

With the exception of three of these activities all others are dominated in 63 and more per cent of the instances by the motive of personal comfort or physical need or force of circumstances. In all of these (with one exception) *there is only one additional important motive, whose rôle is, however, much less important than that of the "monarchical" motive*. Speaking figuratively, *such activities are composed of only two main motivating forces, and of these two one is overwhelmingly dominant*. For the sake of brevity such activities may be styled "two-motive activities" of the "monarchical" type ruled mainly by the motive of personal comfort or physical need or force of circumstances.

As a consequence of this structure, *the number of motives absent or not participating must be expected to be* — and is, in fact, as the table shows — *large*. Indeed, with the possible exception of work-activity (though even there two motives are

absent), all activities of this type of structure show a large number of other motives absent. In most of these activities we read in the right hand column: "all other motives absent" (except the two dominant) or an enumeration of several motives absent. Thus, these activities are of compact structure, with only two motives operative as a rule, and of these two, one is monarchical in its domination.

(B) *The opposite type of overt activities consists of those which are impelled by many motives, none of which plays a dictatorial rôle, and in which as a rule most of the other motives are not absent but are involved to some extent.* If we take activities in which the rôle of the main motive does not exceed 40 or 42 per cent of all motivating forces, we find the following: walking (to a destination), talking, reading of papers and magazines, active arts and crafts, correspondence, ceremonies, courting, entertaining, errands, gardening, men's household activities, religious, school, shopping, smoking, women's indoor activities.

All these are pluralistic in their motivation forces. And the motive relatively most important is different, now being "Preparatory," now religious and moral, now curiosity, now personal comfort, now physical need, now social, now force of circumstances. In this respect they differ from the "monarchical" type of activities, where, as we have seen, the preponderant motivation is that of personal comfort or physical need. Speaking figuratively, the motive of personal comfort is there a hereditary and universal monarch; in the second type of activities there is neither monarch nor any hereditary dynasty; instead, we have changing prime ministers with a limited power and coming from the most diverse "dynasties of motives."

(C) Between these two extreme types of activities lie all the others, some approaching the first type, some the second. To such intermediary types belong the following activities: physical household activities, radio, cards, health, hobbies, personal household activities, idling, picnics, play, play with children, reading books, refreshments, social activities, study, visiting, walking (for pleasure), being with family.

Most of these are also pluralistic in their motive-composition, and are between "democracy" and "constitutional monarchy" in the influence of the dominant motive.

In the light of these results we can say that if a scientific police-detective has to find the motive of this or that overt activity under investigation, his task is relatively easy in the activities of the first or "monarchical" type. He can take as a working hypothesis the dominant motive of personal care or physical need or force of circumstances, and probably will find one of these to be the main motive of the activity investigated. In the activities of the second — pluralistic type — his task is much harder, and the possibility of error is much greater. The number of the operating motives is greater, their combination is more diverse, and their nature is more heterogeneous and changing. Activities of the intermediary type occupy an intermediate position in this respect.

Of the three main types of activities outlined, the data give a still more specific answer to the problem of what main motives the forty-nine activities are composed. Here we can indicate the main classes of activities in accordance with the relatively dominant motivation. From this standpoint the following groups of activities can be indicated.

- A. *Activities dominated by the motive of personal comfort:*
Personal care, auto-riding (for pleasure), radio, active arts and crafts, attending lectures, playing cards, courting, dancing, gardening, indoor games, men's household activities, musical, observing games and spectacles, organized indoor and outdoor sports, picnics, play, reading books, school, smoking, social activities, theatre and movies, unorganized outdoor play, staying with family.
- B. *Activities dominated by the motive of physical need:*
Sleep, eating, caring for health, hobbies, idling, refreshments, walking (for pleasure).
- C. *Activities dominated by social and societal motives:*
Household activities (physical), correspondence, entertaining, errands, household activities (personal), phoning, play with children, visiting.
- D. *Activities dominated by the "Preparatory" motive (means to an end):*
Walking (to a destination), transportation, shopping, study.
- E. *Activities dominated by the motive of force of circumstances:*
Work, women's indoor activities.

- F. *Activities dominated by the motive of filling time or by change:*
Talk.
- G. *Activities dominated by curiosity or desire for new experience:*
Reading magazines and papers.
- H. *Activities dominated by the motive of habit:*
Exercise.
- I. *Activities dominated by religious, moral, legal motives:*
Religious, moral, and legal activities.

Such is the picture given by our material on this problem. Though the material consists, as has been mentioned, of the speech-data of the persons investigated, and though such material has its own shortcomings (also mentioned), nevertheless the picture given by it appears not only to be more detailed and factual but seems to approach the reality of the activities and their motives more closely and more adequately than most of the existing instinct-drive-residue-wish-interest theories do. It indicates a situation that differs considerably from the one drawn by most of the theories mentioned. To this point, however, we shall return presently.

5. *Most Frequent and Most Influential Motives in the Whole Group of Activities Studied.* The dominant frequency of a given motive in all forty-nine activities studied, its frequency as one of the main motives in all these activities, and its corresponding lack of frequency can be taken as a rough measure of the comparative importance or motivating influence of each of the motives studied. Therefore, it is not superfluous to look more closely at the results given in this respect by our data. These results are summarized in the table on page 114.

These figures show that, from the standpoint of the frequency of domination of a given motive, plus the frequency of its presence among the main motives, plus the frequency of its absence from the motives of a given activity (so far as the verbal testimony of the persons involved is roughly reliable), *the most important of all the motives is that of personal comfort.* Next to it probably comes the *social motive.* And in the third place belongs the motive of *physical and physiological needs.* These three motives seem to be far more universally present and more dominant than any of the others. *The fourth and the fifth*

place seem to belong to the motives "Preparatory" and force of circumstances. The rest are *dii minores*, rarely dominant, and

MOTIVE	NUMBER OF ACTIVITIES * IN WHICH IT IS DOMINANT	NUMBER OF ACTIVITIES * IN WHICH IT ENTERS AS ONE OF THE MAIN MOTIVES	NUMBER OF ACTIVITIES * IN WHICH IT IS ABSENT
Personal Comfort	23	16	1
Social	8	23	6
Physical Need	7	18	14
Preparatory	4	9	14
Force of Circumstances	2	13	17
Filling Time and for Change ..	1	16	10
Habit	1	9	14
Curiosity, Desire for New Experience	1	4	26
Religious, Moral, Legal	1	2	33
Custom .....	..	2	37
Economic .....	..	1	36

* Out of a total of 49 activities.

found in low frequency among the main motives. Among these *dii minores* the comparative importance of the motives "Filling Time" and "Just for a Change" deserves to be noted. Finally, the insignificant place occupied by the economic and custom motives needs to be mentioned also.

The criteria used give a rough measure of the influence of each of the main classes of motivation. One of the main shortcomings of these criteria is that they implicitly assume all the activities to be equal in their time-consuming nature. We know, however, that the activities differ in this respect most widely; some, like sleep and work, consume several hours every day, while others take only a few minutes. For this reason another criterion may be used for the measurement of the comparative influence of the motives studied, namely, the *length of time each motive is operative in all the studied activities for all the members of the group*. Such a criterion takes into account the real duration of each activity and gives a less rough index of the duration of each motive. As computed from our tables, the total "length" of each motivation in all forty-nine activities

studied for all members of the group gives the following number of minutes for each class of motives.

LENGTH OF TIME

Motive	TOTAL TIME (MINUTES)
Not Given and Not Classifiable	168,075
Social	140,035
Custom	2,705
Moral, Religious, Juridical	18,045
Personal Comfort	249,450
Habit	99,208
To Fill Time	56,870
Curiosity and Desire for New Experience	21,935
Physical Needs	769,610
Economic	36,615
Force of Circumstances	266,582
Preparatory and Consumatory	88,005
Total	1,917,225

On the basis of these figures and the preceding table the following conclusions are warranted concerning the comparative dominance and influence of the motives studied:

(A) *When sleep is included, the most influential motive* (in the sense of being operative for the longest time in all the activities, taken together, of all members of the group) *is that of physical and physiological needs*, with its total of 769,610 minutes. *Second place belongs to the motive of force of circumstances.* Its rise to the second place here is due to the long time consumed by work activity, which, for most of the members, was motivated by force of circumstances, a standpoint not very different from the Biblical "By the sweat of thy brow shalt thou earn thy bread." The motivation of work activity given by the group studied shows that they regard it as a *necessity imposed by circumstances. This motivation is thus very different from the numerous theories that euphemistically assure us that work is regarded by laborers as a "blessing," "calling," "vocation," "the most desirable and freely chosen pursuit" and the like.* Perhaps, for some groups and persons, and for some

kinds of work, such "sweet" theories are accurate. But for groups like ours, work still remains an unavoidable task, a means for getting a minimum of the necessities of life, but is in no way to be represented as something freely chosen or regarded as a blessing or "call" or "vocation." Most of the members of the group had either had no previous occupation or had only such work as they chanced to get, and much of this was neither of a creative type nor practiced long enough for the worker to acquire a special interest in it (in contrast to such workers as mediaeval artisans). Apparently there was no chance to develop what Veblen styles the "instinct of workmanship," or what Max Weber styles a "calling," in regard to work in capitalist society. In view of all this, the rude motivation given appears to reflect reality much more faithfully for our group than most of the "sweet" theories of work motivation.

Third place belongs to the motives of personal comfort, and fourth to the social motives. The subsequent places are taken by the following motives: "Preparatory," habit, to fill time, economic, curiosity, moral-religious, and finally custom. It is to be noted further that the item "Motives not given or not classifiable" occupies one of the important places and corroborates what was said about its meaning before.

(B) Thus, from this standpoint, we obtain a picture similar to that obtained in the study of the overt activities of our group; namely, *it appears to be predominantly sensate, hedonistic, and utilitarian in its motivation.* The total number of minutes spent under the influence of such hedonistic and sensate motives as physical and physiological needs, personal comfort, and economic, amounts to more than 1,000,000 minutes, while the total number of minutes spent under the stimulus of predominantly non-hedonistic motives, such as social, custom, and moral-religious motives, is only about some 160,000 minutes (the other categories, like force of circumstances, "Preparatory," to fill time, and curiosity, were intermediary between the clearly hedonistic and the predominantly non-hedonistic categories). A similar conclusion also follows from the preceding table on the domination of various motives. Thus, both the overt and

inner aspects of the behavior of our group corroborate well our diagnosis of contemporary men's mentality and culture³ as predominantly sensate.

(C) A few explanatory comments are advisable in order to dissipate any possible misunderstandings and misinterpretations. Inclusion of such time-consuming activities as sleep and work explains the dominant rôle of the motives physical needs and force of circumstances. Considering further a long list of concrete motives united — and united legitimately — into the class of the personal comfort motives, the very important rôle of this class of motives is understandable. (See the list of the motives united under this head.) With slight variation the same is true of the social motive.

In the light of these statements it is also comprehensible why the rôle of many other motives appears to be comparatively very minor. For instance, there is the rôle of economic motive. When one glances through the list of the concrete motives put into this class one can see that the list is very short and embraces comparatively few motives of an economic nature in the narrowest sense of the term: ("to wait for pay check," "plan budget," "to cash checks," etc.). By the terms "economic" and "economic motive" various writers cover most of the activities and motives and needs put by us into the classes "Personal Comfort" and "Physical Needs." If we had not done so, then certainly the economic motive would appear to be the most powerful.

We think, however, that we were correct in separating each of these three classes. The motives of personal care, in their major part at least, are tangibly different from those of physical needs, and both differ from the economic and most of the motives put into the class of "Force of Circumstances." If one who is over-enthusiastic in regard to the term "economic" puts all these three or four classes into the economic category and then uses their cumulative indices of domination as indices of economic motivation, it will assume an unusually high im-

³ See Sorokin, *Social and Cultural Dynamics*, vol. II, Chaps. 13, 14, 15, et *passim* in all three volumes.

portance. We doubt, however, that anything is gained through such an operation, except a purely terminological change. These remarks show that when properly understood, the insignificant rôle of economic motives in the narrow sense is quite explainable.

For similar reasons the rôles of such motives as religious, moral, juridical, custom, curiosity, and habit appeared to be very limited. Each of these sub-classes designates a few closely related motives, and their list in each sub-class is short. Therefore, the comparative dominance of each such sub-class is low. These remarks are sufficient to make it clear that some of the results which appear paradoxical are in reality not so at all.

(D) All in all, in terms of our main classes of motives (see above, p. 91) the most dominant seems to be that of the personal motives (those embracing personal comfort, physical needs, economic, curiosity, habit, and "To fill time"); next comes the class of "Force of Circumstances"; then the class of societal motives made up of social, religious, moral, and juridical motives and that of custom; and finally the class we have called "Preparatory."

(E) Among more detailed points, several observations should be made. The comparative strength of the societal motives, and among these especially of the social motives, appears to be considerable. The bulk and the main strength of this class is made up of altruistic motives — "to help," "to be of service," "to accommodate," "to please" other persons, mainly friends, relatives, and acquaintances. Such motives and activities seem to occupy quite a notable place in the total behavior and motivation of our group and of contemporary society. Purely formal societal motives like the religious, moral, and juridical ones and those of custom occupy, on the contrary, a much more modest rôle. This is partly due to the fact that many religious, moral, juridical, and custom motives find their manifestation in the channels of the social (altruistic) motives.

The motives of curiosity or a desire for new experience appear to play a less significant part than that assigned to them by W. I. Thomas and others. Motives of habit appear to be minor also; however, several of these motives are probably

transferred to other classes and entered there. Motives of "filling time" and "for variety" play somewhat more important parts than is usually thought. Such a category of motives is rarely even mentioned in the classification of motives. And yet it is as real as any other set of motivations and is different from all the others, including curiosity and desire for new experience. Any one of us will certainly find that we carry on many activities daily just for the sake of "filling time" or because we have "nothing else to do." Whatever the activity so motivated is, it is primarily impelled neither by curiosity nor by a quest for new experience.

6. *Critical Remarks on the Theories of Motivation.* (A) In the light of these classes of motives derived from inductive evidence, the existing classification of the "driving forces" (instincts, residues, interests, wishes, emotions, feelings, etc.) of human activities appears not to be erroneous but rather too general and artificial. Likewise, the importance ascribed to this or that class of "forces" appears to be far from adequate. Additional shortcomings of many of these theories, which assume a specific and narrow relationship between a certain kind of force and a certain form of overt activity, have already been discussed.

First of all, most of the classes of instincts set forth by various instinctivist theories⁴ have but a remote relationship to our classes and sub-classes of motives, as well as to each concrete motive within each class or sub-class. Violating the specific sense of each motive or class of motives, one can, of course, attempt to translate; for instance, several of the social motives may be grouped into an instinct of the herd, or gregariousness, or parental instinct, or the like. But, putting aside the doubtful right to call these motives instinctive, what is gained by such a translation? Nothing. What is lost by it? Accuracy, immediacy, and factualness of the classes given above and their component motives.

Likewise, if we compare our classes of motives with, say, the

⁴ See P. A. Sorokin, *Contemporary Sociological Theories* (New York, 1927), pp. 603-617.

main classes of Pareto's residues or sentiments, we can see at once how artificial and speculative the classes of Pareto's residues are. For instance, his main residues, Persistence of Aggregate and Combination, are found only in some fragments among our classes, sub-classes, and separate component motives. Perhaps the motive of curiosity and the desire for new experience contain something from the residue of the Combination. Perhaps some of the concrete motives of the class of "Physical Needs" and "Personal Comfort" and "Habit" and "Custom" have some elements of what Pareto styles the residue of Persistence of Aggregate. But neither these elements nor the class of curiosity and quest for new experience is as important as Pareto thinks the residue of Combination is, nor, indeed, are they identical with it. What is still more important, the forms of overt activities motivated dominantly, mainly, or partially by the motives of curiosity and of quest for new experience are very different from the overt activities related by Pareto to the residue of Combination. And the same goes for his Persistence of Aggregate and other residues, and overt actions supposedly connected with each residue. His theory here remains mainly speculative — a deduction from overt speech-reactions and actions to their "residues" and "sentiments" and from these to overt actions. It has hardly been subjected to any factual and inductive test,⁵ and, if it were, it would have to be modified greatly.

With slight variation the same can be said of various *interest* and *wish* theories.⁶ Several of them look very elegant logically, but, in spite of this, when tested they seem to be fairly remote from actual reality. Our grouping, as we have said, was not designed logically in advance of the material studied — the free wording of the persons who recorded their motives — but represents an expedient grouping into a limited number of classes of all the numerous wordings given by the members of the group,

⁵ Still more interesting from this standpoint is the activity *Talking*. For Pareto it is mainly a "derivative-phenomenon." In our study it is an activity *per se*, and this activity has several motives which have only a remote relationship to his classes of residues.

⁶ For these see Sorokin, *Contemporary Sociological Theories*, pp. 617-659.

who pointed out the motive of each of their activities simultaneously with, or immediately or a few hours after its performance. The material represents the immediate, authentic, factual data of the motive-experience of the persons concerned. The data are not the inferences or deductions of an onlooker, nor are they the theorizing of an investigator; instead, they are the direct stuff of motive experience. As such, the findings reflect empirical reality in this field possibly better than speculative logical classifications. We have been able to take several steps which other theories have not made and can hardly make without empirical material. To sum up: even though speculative analysis in this field has its useful function, study based upon an observational and inductive approach similar to our own can possibly throw more light through a purely empirical knowledge of the properties and relationships in this field than the speculative theories.

(B) A few remarks are not out of place here concerning the general theories of human motives and motivation. In the briefest form they can be summed up as follows.

The data above definitely contradict all theories of human motivation which are based exclusively upon the hedonistic quest for pleasure and avoidance of pain and suffering. These hedonistic and utilitarian motives are certainly present and, as we have seen, occupy quite a large place among the motives given by our sample. But besides these there are other motives which are predominantly non-hedonistic from the standpoint of the person experiencing and recording them. Such are the *social and religious-moral-juridical motives, custom, force of circumstances, "To fill time," even curiosity*. These motives *prima facie* have either nothing to do with or a very remote relationship to any seeking of pleasure and avoiding of pain or suffering on the part of the person dominated by these motives and performing the actions they had to. If the partisans of the hedonistic universalism attempt to extend the meaning of their motives over these classes, then their concept becomes so wide and vague that it loses any meaning.⁷

⁷ For the deepest and possibly the best criticism of the hedonistic theories

The data also contradict the theories of motivation which assert that all human actions are psychologically purposive, and that there is always some aim or objective present in the mind of the person acting — in short, that one acts always according to the schema "in order to," or the "means and ends" schema.

Such purposive psychological motivation — "in order to," "for the sake of," "aimed at," consciously directed towards such and such a purpose, or end, or "objective" — certainly exists. But again it is only one of two forms of motivation, the other being non-purposive and free from any "in order to," any aim consciously set forth, and any conscious "means-ends" schema. As Petrajitsky rightly says, a large part of human actions are performed not according to the purposive motivation "in order to" or "for the sake of" but according to the motivation "because of" and many others having no relationship to purposive motivation.⁸ Among our motives we have a class, "Not given and unclassifiable." This class represents either motives which often could not be discerned even by the members of the group themselves or those which were of such a character that they could not be put into any of the classes. The existence of such a category is the first evidence of the existence of actions and motives of a non-purposive character.⁹ Second, our class of motives, "Force of Circumstances," belong mainly to the class of motivation of "because of," but not to that of "in order to" or "for the sake of." Third, the motives of habit, custom, duty, and "To fill time," are also mainly non-purposive. A number of non-purposive motives seem also to enter several other classes of motives, such as physical needs and, in a smaller degree, personal comfort.

7. *Freely Chosen and Imposed Activities in the Light of Motivation.* Finally, the data above give us a rough criterion

of motivation, see Leo Petrajitsky's "Theory of Law and State" (published in Russian in St. Petersburg in 1909 and not yet translated into English), vol. I, Chap. I.

⁸ Petrajitsky, *op. cit.*, vol. I, pp. 14 ff.

⁹ If one tries to analyze his own motives for the activities performed during only one day, one sees clearly that such non-purposive activities and motivation exist, in spite of a tendency towards the rationalization of our actions and motives.

for determining whether a given person feels himself free, to what extent, and in what activities. The criterion is rough, but in all probability it is better than the purely formal criteria of so-called "inalienable rights" and political liberties, so much used, and abused for so long a time. Under contemporary social and politico-economic circumstances, even in democratic countries, these political liberties have become quite inadequate measures of liberty or freedom of the masses of the population. For politicians and intellectuals actively engaged in politics they may still remain important. For the groups like ours, whose active participation in political affairs is (as we have seen) almost nonexistent, such purely political liberties are something like grandmother's wedding dress, nice to look at but unfit to be put on or to be used in any way. For such groups, and after all, for all of us, real liberty is the opportunity to do what we want to do and not to do what we do not want to do. All the activities — no matter what they are concretely — which we take part in because we want to we consider freely chosen activities. All activities which we do not want to take part in, but are forced to, will be felt as imposed activities.¹⁰

From this standpoint the activities motivated by *force of circumstances* are evidently imposed activities (from the standpoint of the actor). Such imposed activities are likely to be present also under the motive of physical need and economic, even social, custom, moral and religious motives (when the norms imposed by the existing mores, religion, law, and ethics, are in contradiction to the norms of the individual or group). Unfortunately, however, we are not in a position to indicate which portion of the activities so motivated is freely chosen and which is imposed. In the case of the activities motivated by force of circumstances this indeterminacy does not exist. *This motive can be used as a very rough, but real, "indicator" of the portion of the activities of a given person or group which is unquestionably imposed.* From this standpoint, out of the total 1,917,225 minutes spent by our group in all its activities under

¹⁰ For a detailed analysis of liberty and its forms, see Sorokin, *Social and Cultural Dynamics*, vol. III, Chap. VI.

all motives, we find that 266,582 were motivated by force of circumstances. This means that in about 14 per cent of the time spent in all activities our group felt itself *not free* and did what it was forced to do (see the table above). The portion of its imposed activities may be, and probably is, greater, but, as we have said before, the other motives do not permit us to say what portion is freely chosen and what imposed. Such are the indicator and the unquestionable amount of imposed activities in the behavior of our group measured by the time spent in them.

It is interesting further to see which activities were felt to be forced or imposed. These are, first, those in which the *motive of force of circumstances was dominant* (such were work and women's indoor activities); second, those, in part, in which the *motive of force of circumstances was one of the main motives*. Into this category falls a portion of the following activities: sleep, health (sickness) activities, walking (to a destination), transportation, correspondence, errands, idling, shopping, musical activities, gardening, and even hobbies (see the table above, pp. 102-109).

This list of activities discloses the lack of freedom felt in fields where it is rarely looked for and almost never mentioned in eloquent orations on freedom and liberty. Nevertheless, since some portions of these activities by the persons involved were felt to be imposed, we can but accept the result. It means that, among those who feel their work activities or their women's-indoor-activities are not freely chosen but imposed, an ideal legislator could increase real liberty by merely cutting the hours of these activities or by replacing them with other work fitted to the wishes of the respective persons. In the light of these results, it is but natural that many labor groups nowadays should fight much more for shorter hours of work than for this or that "political liberty." Likewise, those who feel that their walking, transportation, errands, shopping, idling, or correspondence activities are "pinching" their freedom could be liberated by an ideal legislator much more effectively through measures that partially or entirely unburden them of such

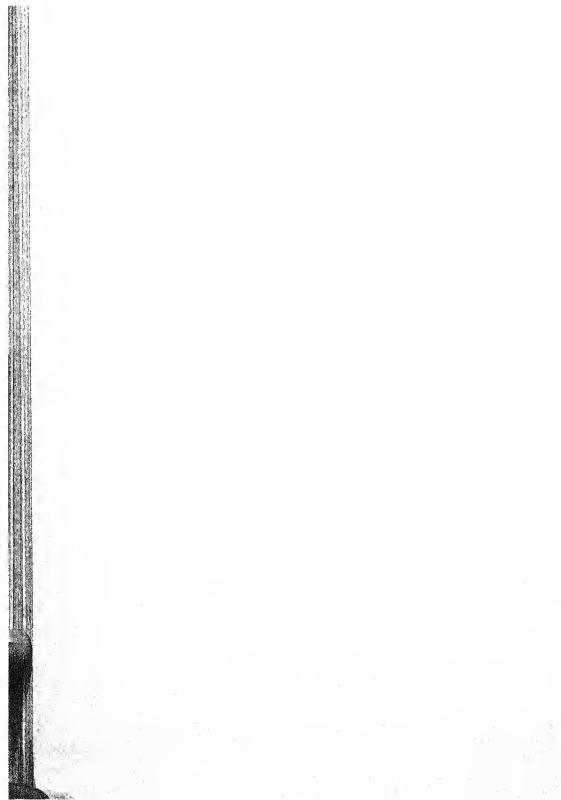
activities than through bills confined to purely "political liberties." This conclusion seems to be corroborated by the intensive struggle of many labor and other groups for measures concerning the improvement of transportation facilities, free delivery of goods, the elimination of idling and unemployment, and similar measures. Many contemporary struggles for so-called economic issues — the struggles which occupy the chief place among present-day social and political antagonisms — are efforts to increase the freedom of groups or persons in fields similar to those above.

Many politicians and intellectuals seem unable as yet to understand this. They still see the problem of liberty in the pattern of the seventeenth, eighteenth, and nineteenth centuries, when it was centered mainly around formal political liberties. At the present time, whether for good or bad, the problem of freedom has shifted from these political issues to economic, social, and other issues that concern the comfort, welfare, and liberty of many groups much more vitally. Such is the implication of our data in the light of the important social issues of the present time, and such is the meaning of these important issues in the concrete language of these data. They mutually agree and supplement each other.



PART IV

ANATOMY OF SOCIAL CONTACTS: SOLITARY AND NON-SOLITARY ACTIVITIES



CHAPTER XI

SOCIAL ACTION ANALYZED IN TERMS OF THE NUMBER OF PARTICIPANTS AND THE TYPE OF PARTICIPATION

CERTAIN activities of our group are performed in solitude, whereas others are non-solitary; this fact is, of course, inevitable in the pattern of social behavior, but it gives rise to more detailed questions. Which activities are solitary and which involve companionship or group participation?¹ In the latter instance are the participants friends, members of the family, acquaintances, neighbors, business associates, or do they belong in another category?

Most investigations made by sociologists in the field of social contacts have dealt with the various *formal* organizations — the family, the church, the club, the association, etc. — to which the individual belongs.² It is clear, however, that these formal organizations and formal contact-participations do not exhaust the scope of social action; nor are they, especially for young adults, the most important. Exclusive concern with them neglects a wide area of behavior, for beyond the range of formal

¹ Unless specifically designated to the contrary, contact will be used to imply face-to-face presence of another individual or individuals. In several activities (such, for example, as attending the theatre or engaging in other spectator rôles) presence or active association means not the presence of a large audience — which is self-evident — but attending the play, etc., alone or in company with another or others.

² The following works are examples of such studies of contacts and participation in a more formal context: D. E. Lindstrom, *Forces Affecting Participation of Farm People in Rural Organization*, Bull. No. 423, Univ. of Illinois Agric. Exp. Sta.; G. A. Bakkum and Bruce Melvin, *Social Relationships of Slaterville Springs — Brooktondale Area, Tomkins County, New York*, Bull. No. 501, Cornell Univ. Agric. Exp. Sta.; J. H. Kolb and A. F. Wileden, *Special Interest Groups in Rural Society*, Res. Bull. No. 84, Univ. of Wisconsin Agric. Exp. Sta.; and W. A. Terpenning, "Requisites to Rural Social Organization," *Amer. Jour. Sociology*, vol. XXXIII (1928), pp. 737-753; H. J. Burt, *Contacts in a Rural Community*, Univ. of Missouri Agric. Exp. Sta. Bull. No. 125, 1929; J. L. Hypes, *Social Participation in a Rural New England Town* (New York, 1927). The results of these researches are not comparable with those from our data and for this reason are not introduced here.

organizations and contacts there exists the much vaster region of informal association. Within the locus of the latter are found the problems with which this chapter deals. We shall attempt to give a fairly complete picture of the informal social contacts of our group, and in so doing to show the number and relationships of the persons brought together in various types of activities.

Before entering into the analysis, it is necessary that a few explanatory remarks be made. With reference to the *number of other persons present* (face to face and actively) or the size of the groups involved, the following group divisions were made: (1) none present except the subject; (2) one other person present; (3) two others persons present; (4) three other persons present; (5) four other persons; (6) from six to ten other persons; (7) from eleven to twenty in addition to the subject; (8) more than twenty.

As to the nature of the *social relationships* or social bonds of the persons present, the following categories were used: (1) business associates and co-workers; (2) casual acquaintances; (3) members of a family; (4) friends; (5) neighbors; (6) relatives; (7) strangers. The following designations give a more detailed nomenclature of the various relationships put into each of these categories.

SPECIFIC RELATIONSHIP CATEGORIES

Business Associate

Clerk, co-worker, employer, fellow-students, teacher, pupils, land-lady, doctor

Casual Acquaintance

Family

Brother, child, daughter, family, father, husband, mother, sister, son, wife

Friend^a

Boy friend, chum, fiancé, friend, girl friend, pal, guest, visitors

Relative^a

Aunt, cousin, nephew, niece, relative, uncle, brother-in-law, mother-in-law, father-in-law, son-in-law

Neighbor^a

Stranger

^a It is quite possible that in some cases the categories "Relative" and "Friend,"

With these notes we may pass to an outline of the essentials in regard to most of the activities studied. The results achieved can be briefly analyzed and summed up.

Sleep. By its nature, sleep is an activity that precludes in most cases a significant social intercourse (except intimate relationship between the sexes during the period allotted to sleep, but this is naturally not recorded). Therefore no data about "other people" are given for this activity.

Meals. In the number of people involved, meals are a highly "socialized" or "public" activity. Only 5.6 per cent of all the schedules indicate that meals were eaten alone. The remainder show the presence of from one to ten other people, with scatterings of even larger groups. The largest frequency is the group of three people, including the subject.

A significant trend is that time spent in eating increases as the number of other people involved increases. For instance, we have a steady increase from the 1 hour and 10 minutes spent in eating when alone, to 1 hour and 50 minutes spent in the activity when with five other people. From the standpoint of the kind of the people present, time spent on meals is shorter when "None" are present than when "Family" or "Friends" are present.

Of interest at this point is the determination of the *type of relationship of the people* who are present during the eating activity. The *family* is by far the most important group involved, being listed by 85.6 per cent of the total number of schedules. Next in importance are *business associates*, who account for 30.3 per cent⁴ of the total listings. Surprisingly low, in the light of its important position in many of the other activities, is the

or "Friend" and "Neighbor," overlap one another. Inasmuch as there was no means of making the necessary distinctions, the specific relationship listed was accepted.

⁴ The total of 85.6 per cent for family, 30.3 per cent for business associates, 18.5 per cent for friends, and so on, is more than 100 per cent. This is due to the fact that often when two or more other persons were present, some were family members, some friends, some business associates, and so on. In the computation, each category was taken separately, and the percentage was computed for the total number of those listing the activity. Hence the above result. The separate categories should not be summed.

friend category, which is listed here by 18.5 per cent of the cases. This indicates a possible conclusion for which we shall find further substantiation; namely, that friends play a very important rôle in certain activities while their involvement in other is consistently less important. With reference to *relatives*, we find that their listing for meals, 8.7 per cent, is one of the highest percentages shown by this category. Here the suggestion made above with reference to friends is reversed. Relatives are shown in this study to play an important rôle in the "formal" activities of life, and an almost negligible rôle in the "informal" activities.

Personal Care. The very nature of the activity, personal care, suggests that it is a "private" activity that usually excludes the presence of other people. Of the total cases under consideration, 89.7 per cent are performed *alone*. The rest indicate the presence of other people, the majority indicating only *one* other person involved.

Family members account for the largest number of listings of other people (9.0 per cent), friends and business associates for the remainder. When members of the family are present, there are only one or two other people involved, whereas when business associates are present a slightly larger number of persons is present.

Health. In 71.0 per cent of the cases entered under *health*, the records indicate the presence of other people, though, for the most part, the presence of only one other person is noted. Whereas the average amount of time spent daily by those participating in the activity alone is roughly 2 hours and 45 minutes, when one other person is present slightly less than an hour is recorded.

Work. In only 5.6 per cent of the cases do the individuals work alone, and in virtually 50 per cent the subjects work with six or more other people. The intrinsic nature of the activity dictates the high percentage of business associates listed (92.3 per cent).

Transportation. Persons present in transportation are, besides those met through chance, mainly companions with whom

one regularly takes such trips. Most frequently the presence of only one or two others is noted. An increase in the amount of time spent on transportation is noticeable as the number of other people involved increases. When the subject is alone, the average amount of time spent per day is 1 hour, 17 minutes; this figure gradually increases to slightly more than two hours (124.4 minutes) when three other people are present.

Who are the people actively involved in the activity of transportation? They are, in order of frequency, friends, business associates, and family members. The large percentage of cases listing the presence of business associates reveals the practice of riding part of the way home with co-workers; on the other hand, the large number of cases listing the presence of family members shows the habit of starting to work in the morning with members of the family and especially of making visits and carrying on similar activities with family members. Of interest also is the small percentage of cases listing the neighbor and relative categories.

Walking. Walking to a destination is carried out alone by 35.9 per cent of the subjects participating, the majority of the remaining cases (45.8 per cent) revealing the presence of one other person. When walking alone the average person spends 50 minutes, whereas in those cases where one other person is involved, the average duration increases to 60 minutes. If two or three other people are involved in the activity, the average amount of time decreases. Associates (54.2 per cent) and friends (38.5 per cent) are listed by the greatest number of cases. These figures probably mean that co-workers accompany the subjects when leaving the place of employment, and friends when leaving parties, dances, and so forth. Again, there is a small number of cases listing neighbors (2.8 per cent). Here, as in several other activities, neighbors seem to play a very minor rôle in the social contacts of our urban group. On an average three-quarters of an hour is spent in walking with friends and family, while with business associates only 18 minutes is spent, a fact which shows the incidental nature of such a relationship.

Household Activities (physical). Almost one-half (49.3 per cent) participated in this activity alone, while 44.1 per cent indicated the presence of one other person. The family is mentioned in 53.5 per cent of the cases showing the presence of other people. Household activities-physical is obviously a category concerned with domestic employment, and, aside from family participation, the only other relationship of any significance is that of friends, with listings in 6.3 per cent of the total cases.

Shopping. In 56.3 per cent of the cases, shopping is done alone. In 35.2 per cent it is done in the company of one other person; in the rest of the cases in the company of two, three, and more persons. Those who are present when the subjects go shopping are friends in 18.5 per cent of the cases, and members of the family in 17.9 per cent of the cases.

Men's Household Activities. Although the majority of the men engage in household activities in solitude (57.9 per cent), 23.7 per cent indicate the presence of one other person. As the number of other people involved increases, the average amount of time spent in the activity also rises. This correlation may mean that the more difficult tasks require the presence of other people or that the presence of other people results in chatting and in less efficiency, thus prolonging the average amount of time consumed. Family members are the others involved in 28.9 per cent of the cases; friends are involved in 13.2 per cent. In many respects the behavior characteristics involved in this activity closely resemble the variations found to be typical of the household activities-physical category.

Household Activities (personal). In 76.8 per cent of the person-day records there is indicated the presence of one other person. While a small percentage of cases indicate the presence of friends and relatives, over 88 per cent list the presence of family members. It is of interest to note in relation to this activity that relatives show a comparatively high percentage of listings.

Errands. Most of the subjects (68.5 per cent) do their errands alone, although there are cases listing the presence of various

larger groupings. No relation between the number of other persons present and variation in amount of time spent is noticeable. The largest number of listings of the relationship involved is shown by business associates (12.4 per cent). Friends are listed in 11.9 per cent of the cases, and family members in 8.1 per cent.

Talking. In visualizing a conversation, the common stereotype is of two people, the subject and one other person. Our data reveal this to be far from correct, however, and show one of the most even distributions of cases, according to the number of other people involved, in the entire study. The largest number of person-day records (81.3 per cent) indicate the presence of from one to four other people. In contrast with other activities, the amount of time spent in talking decreases as the number of other people involved in the discussion increases.

With whom were the conversations carried on? In general, an equal number of instances indicates conversations with business associates, family members, and friends. In cases where conversations were carried on with friends, a slightly longer average amount of time was spent than when conversations were carried on with members of the family. Relatives are mentioned in a fairly large percentage of the cases, and, as in previous activities, neighbors are mentioned rarely. Strangely enough, the number of cases listing periods of conversations with strangers is almost as large as that for the relative category.

Reading (papers and magazines). The largest number of cases (71.6 per cent) read alone; the rest read in the presence of other persons. More time is spent in reading when with one other person than when alone. It seems that when reading alone the average individual, free from interruptions, finishes his reading matter more quickly than when in the presence of one other individual. By far the greatest number of periods spent in reading papers and magazines when others are present takes place in the company of family members. The family's presence is noted by 24.7 per cent of the person-day records listing the activity, and in a few cases the activity is undertaken in company with friends, relatives, and business associates.

Reading (books). The number of cases indicating the presence of others is lower here than for reading magazines and papers (88.3 per cent of the cases participating indicated the presence of no other person). Little comment is necessary on this point, inasmuch as the reading of a book is an activity requiring on the whole greater concentration and fewer interruptions than the reading of magazines and papers. In the few cases where others are present they are family members.

Radio. In only 32.9 per cent of the cases do individuals report listening to the radio alone; 67.1 per cent report it in the presence of other persons.

While listening to the radio alone averages slightly more than one hour per day (64.8 minutes), the average time for those listening in the company of others increases with the size of the group. This relation remains constant up to the point where five other people are involved. The fact that the average amount of time spent at the radio approximates the one-hour mark so closely, would indicate a tendency to listen in to definite programs consuming either thirty minutes or one hour. The presence of other people would result in conversations, comparison of reactions, and a general discussion after the conclusion of any program, and thus serve to lengthen the amount of time the radio is in operation.

Listening to the radio shows itself as one of the personal, informal activities in which the family plays a large rôle. Whereas 52.7 per cent of the cases list the presence of the family, the next highest listing is of friends, who account for only 18.5 per cent of the cases. The family greatly overshadows any other group in this activity, which is similar in this respect to such activities as reading.

One additional point to be noted is the larger percentage of cases under the "Friend" category when the size of the group is one, three, and five other people. The presence of one, three, and five other people would indicate one, two, or three couple groups when including the subject. Although this is the first activity indicating the prominence of *couple groupings* in the

lives of our young subjects, we shall have an opportunity to study other activities revealing the same characteristic.

Idling. In 60.9 per cent of the cases idling is done alone. Furthermore, as the average number of other people involved daily increases, the average amount of time spent decreases. With whom do the subjects idle? The largest number of cases where others are involved is that of business associates (17.8 per cent). The presence of friends is indicated in 12.4 per cent of the cases, and the presence of family members in 9.7 per cent. The relegation of the family in this activity to a position below that accorded to friends is to be expected, inasmuch as friends are those with whom we elect to spend our spare time.

Walking (for pleasure). In only 13.2 per cent of the cases is this activity carried on alone. Almost one-half of the cases (49.4 per cent) list the presence of one other person. The presence of two and three other persons is listed in 21.0 per cent and 11.7 per cent of the cases respectively. These percentages are much larger than those found for other activities. There is no tendency for the average amount of time spent per day to increase as the average number of persons involved increases. When the subjects walk for pleasure, they have the company of the following: friends (56.1 per cent of the cases), family (16.2 per cent), and associates (14.9 per cent). Walking for pleasure in the company of friends ordinarily consumes more time than walking in the company of members of the family.

Smoking. In 17.8 per cent of the cases there are no other people present, in 37.9 per cent one other person is present, and in 25.6 per cent two others are present. In addition, a comparatively high number of cases list the presence of four, five, and six to ten other people. In 49.8 per cent of the cases, members of the family are present when the activity is indulged in, and a slightly lower percentage of cases (42.5 per cent) lists friends. Business associates, in this case co-workers, are listed in 16 per cent of the cases.

Women's Indoor Activities. In 62.9 per cent of the cases women's indoor activities are performed alone and in 31 per

cent of the cases in the presence of one other person. On the basis of the small number of cases listing this activity, we note that there is a tendency for the average amount of time per person-day to increase as the number of other people involved increases. The same tendency has been found in many other activities, and reveals the fact that the presence of other people is conducive to conversation. Thus when others are present, in reality two activities are being carried on at the same time, i.e., the activity listed and the activity of talking, visiting, or "with family." That this activity may be considered as a home activity is implied by the listing of family members in 28.5 per cent of the cases indicating the presence of others.

With Family. By definition there are no cases in which the individual subject is alone. In a majority of the cases, 53.7 per cent, one other person is present, while 29.3 per cent indicate the presence of two other people, and 12.2 per cent the presence of three other people. A scattering of cases denotes the presence of friends or neighbors, which may be assumed to represent, not visits, but merely "drop-in calls."

Unorganized Outdoor Play. All of the entries indicate the presence of others, one other person being shown in 40 per cent of the cases. Those involved are for the most part friends, with occasional instances where members of the family are listed.

Playing with Children. Of the twenty cases entered, fourteen indicate playing with the child without the presence of others, and the remaining six cases indicate the presence of the child and others. Occasional instances of friends, neighbors, and relatives involved are mentioned, but eleven of the cases indicate family members. It is interesting to note, despite the small number of entries we are handling, that occasional instances of playing with neighbors' or relatives' children are mentioned.

Exercise. The activity is usually carried out in the seclusion of one's room, and only three cases indicate the presence of others.

Hobbies. The activity is participated in alone in all but two cases, where we note friends listed.

Telephoning. Obviously one other person is involved in each instance. Whom do people talk with over the telephone? Friends are listed in 75.6 per cent of the cases, for family members (7.7 per cent of the cases), residing for the most part in the same dwelling, would seldom need to be communicated with by means of the telephone. Interesting is the comparatively large number of cases listing the relative category (9 per cent).

Correspondence. In only four cases is the presence of another person indicated. It is interesting to note that when the individual is alone the average amount of time spent was approximately one-half that spent when another was present.

Auto-riding (for pleasure). Automobile riding is definitely a "public" activity, for in only 1.2 per cent of the cases is auto-riding for pleasure done alone. The number of people involved is obviously limited by the seating capacity of the car, and we thus find the categories "one other to five other" with a fairly high percentage of cases noted.

Of interest are the large clusters about the "one other and three other" categories. Since our subjects are predominantly young and the records were collected during the summer, this clustering about the one and two couple categories is not surprising. We have had and shall have occasion to note a similar arrangement in several other activities. The average amount of time spent when in the company of others shows no definite trend, and the constant repetition of the two-hour figure is no doubt due both to the tendency to record time in round figures for the long items and to the fact that the normal free period in the evening is approximately two hours. It is interesting to note a slightly longer average amount of time spent in riding when the one, two, or three couple groups (shown by the one, two, and five people categories respectively) are involved.

Corroboration of the importance of the courting and sex element is shown by the fact that 93.9 per cent of the cases listing the presence of others specify the presence of friends. Although this is frequently pictured as a family activity, we note that in only 16.8 per cent of the cases are members of the family

listed. Relatives are listed in 9.9 per cent. This comparatively high percentage is due to the common practice of inviting relatives to accompany one on a ride on Sundays.

Analysis of the size of the group with relation to its composition reveals the significant fact that when friends are mentioned 51.1 per cent of the cases involve one other (one couple) and 6 per cent involve three others (two couples). These figures bear out the previous contentions with reference to the courting and sex element involved in our records for automobile riding.

Visiting. Obviously there are no entries for visiting which do not mention the presence of others. The largest percentage is for the presence of one other person (35.1 per cent), and the remaining categories reveal a decreasing frequency as the number of other people involved increases, although as many as ten cases (2.8 per cent) reveal the presence of eleven to twenty other people.

As the average number of other people involved increases, the average amount of time spent in visiting increases. Whereas certain activities show a reverse tendency, in this activity such a relationship is to be expected. A further anticipated fact is the presence of friends in 77.9 per cent of the cases. Family members are listed in 21.8 per cent, relatives in 11.9 per cent, and neighbors in 2.3 per cent of the cases. The rather high percentage of relatives emphasizes the tendency for this relationship to be comparatively prominent in those activities involving social formalities. The small percentage shown listing neighbors, in an activity where they would logically be expected to play an important rôle, accentuates the picture of the unimportance of this category, as portrayed throughout the study.

Amusements. The majority of cases involves the presence of others, only six cases indicating that the subjects participate in the activity alone (not considering the anonymous public present). There is a slight clustering about the one (one couple) and three other people (two couples) involved group. In the light of our findings with reference to auto-riding (pleasure) and those that we shall note for other activities, this

shows again the grouping by couples in this activity. The data also show more time devoted to the activity as one or two other people are involved. Interesting also is the fact that, when one other person is present, the subjects spend almost twice as much time on the activity as when carrying it out alone. Friends are listed in 66.6 per cent of the cases, family members in 13.9 per cent, and relatives in 8.3 per cent. The total number of cases hardly warrants any conclusions, apart from the fact that the number of cases listing the presence of family members is much smaller than had been anticipated for this activity, which is frequently associated with family week-end excursions.

Cards. There are only two cases indicating that the subject played cards alone. These would obviously be instances of the subjects playing one of the many varieties of solitaire. The cases where one or two other people are involved indicate a choice of several games, among them casino, pinochle, rummy, and so on. The largest number of cases, however, indicates the presence of three other people (46.6 per cent), thus correctly reflecting the modern vogue of playing bridge.

Time spent on playing cards increases as the number of other people involved for our subjects increases. This is to be explained by the fact that it requires more time to play one hand around when more people are involved, and that games requiring a larger number of people are frequently more complicated and time-consuming.

The two most popular relationship groups, as in so many other activities, are friends and family, with 59.5 per cent and 49 per cent respectively. It will be noted that this activity accords to family groupings a somewhat higher percentage of listings than is found in most of the organized recreational activities, and that the "forgotten categories" of neighbors and relatives are also mentioned in a larger percentage of the cases.

The family is listed more frequently in those cases where only one or two other people are involved. Friends show a larger number of listings in those cases where the presence of three others, or a group of four, is listed. It seems that such card games as casino, pinochle, and rummy are usually played

in the company of members of the family, whereas bridge is usually played in the company of friends.

Courting. The average number of other people reveals the presence of either one or three other people — the one and two couple arrangement — and in almost all of the cases the other people involved are friends.

Dancing. Here again is a predominantly one or two couple activity. Slightly more than 70 per cent of the total cases listing dancing show the presence of either one (one couple) or three (two couples) other people. Inasmuch as the majority of cases where dancing occurs reveals the couple arrangement, it is only logical that we should find friends mentioned in most of the schedules. Isolated cases of family members or relatives may be accounted for by dancing at parties or gatherings.

Entertaining. A large number of other people are frequently involved in this activity, and we once more note the clustering of cases about the one and two couple groups (27.2 per cent and 21.7 per cent respectively). Unquestionably this activity also includes many instances of courting in which a young woman entertains a man at her home. The majority of cases (58.7 per cent) indicate that the other people involved are friends, with a fair number of listings for family members and relatives. It may be stressed that relatives once again acquire a comparative importance in this somewhat formalized social activity.

Refreshments. Only 11.7 per cent of the cases indicate partaking of refreshments alone, whereas 32.7 per cent show the presence of one other person, 17.4 per cent show two other people, and 24.3 per cent show three other people. Thus there is seen again a dominance of a couple (one and two) arrangement. As the number of other people involved increases, up to the point where three others are included, the average amount of time devoted to the activity also increases. Friends were listed in the majority of the cases (63.2 per cent), being followed by family members, and no others. In the same order, the average amount of time spent on refreshments decreases.

In the cases where friends are present we find the one and two couple group.

Theatre. In 13.1 per cent of the entries the subject attended the theatre alone, but the majority of cases (62.3 per cent) show the presence of one other person. Despite the fact that the theatre has been termed the great American "family institution," we note that friends are listed in a far greater number of cases (72.4 per cent; family, 13.5 per cent).

Play. Only 9.1 per cent of the total cases listing play show the presence of no other people. We note with interest the large increase in the average amount of time devoted to the activity as the number of other people involved increases. A full four hours separates the average amount of time spent in playing when alone from that when in the presence of twenty-one or more other people. There is again a clustering of cases about the one other and three other people, i.e., the one and two couple groups. Friends account for listings in 82.3 per cent of the cases, while the family is listed in only 24.2 per cent of them. Although it is commonly assumed that family groups make frequent trips to beaches, especially among the lower income groups, our figures indicate that for our subjects the family grouping is of comparatively slight importance in this activity. A longer average period of time is devoted to the activity when the subject is accompanied by friends than when accompanied by members of the family.

Social Activities. In Chapter V we pointed out the small number of cases listing this activity category. The reason for it is the low age-level of the subjects. It is a well-known fact that the height of organizational interests is not reached until middle age. A contributing factor to the small number of entries may well be the low economic status of our subjects, inasmuch as it is the middle class individual who is commonly assumed to show the greatest degree of organizational interests.

Without losing sight of these characteristics of our subjects, which would tend to bias our data on this activity, we may seriously question the adequacy of using these activities and the contacts involved for the measurement of the extent of social

contacts of a given individual or group. In many studies, e.g., Lundberg's and several of the Agricultural Experiment Station reports, the extent of social contacts characteristic of a person or group is judged on the basis of the number of organizational interests, as revealed by memberships and office-holding positions. It is apparent that such a technique studies only formalized contacts, which for our subjects, at least, are completely overshadowed in importance by the more informal social activities. Further, it may be pointed out that only by means of a procedure such as the one used here may the true comparative importance of formalized social contacts be evaluated.

As was to be expected, the size of the groups involved is fairly large and evenly distributed throughout the various group size intervals. In the majority of cases, the other people involved are listed as friends (66.6 per cent), while family members are recorded by 18.2 per cent of the entries. Surprisingly large is the percentage of cases revealing the presence of business associates (39.3 per cent). This is a reflection of the fact of participation in unions, clubs, and associations for the protection and promotion of one's business and professional interests.

Organized Indoor Sports. A large number of other people are involved in each instance; they are in all cases friends of the subjects.

Picnics. Large numbers of other people are frequently involved. The majority of the reports, fifteen, list the presence of friends, while only five list family members. This is a surprising fact, inasmuch as popular belief visualizes the picnic as mainly a family affair.

Indoor Games. A wide range for the number of other people involved is shown: friends in 63.2 per cent of the cases, and family members in 36.9 per cent of the cases.

Musical Activities. Musical activities are participated in alone in 70.7 per cent of the cases — alone in the sense of attending concerts, and so forth, without a companion. Only 9.8 per cent of the cases show an attendance in the company of one other person, and from this point on the percentage of cases gradually diminishes. This is one of the few activities of the pleasurable

type showing the presence of family members in more cases (17.1 per cent) than of friends (14.7 per cent).

Observing Games and Spectacles. This is an activity with a high percentage of cases showing participation in the company of from one to five other people (besides the public present); one of the smallest percentages is for the "alone" category (7.9 per cent). We once more find the average amount of time devoted to the activity increasing with the number of other people involved. Those present in the majority of cases are friends, such being listed by a total of 74.2 per cent of those participating in the activity, whereas family members are listed in 27.4 per cent of the person-days.

Organized Outdoor Sports. In only four cases was the activity participated in alone, whereas 28 per cent reveal the presence of one other person, 14 per cent the presence of two others, and 40 per cent three others. The presence of clusterings about the one other and three other group (the one and two couple group) is hardly attributable to the courting element, but rather is to be explained in terms of the fact that the games involved often require either two or four participants. Of those involved in the activity, 80 per cent listed friends, and 34 per cent listed members of the family. It may further be noted that the size of the groups involving friends is uniformly larger than that of groups involving members of the family.

Religious Activity. Although the majority of listings (67.5 per cent) indicate participating in the activity alone, gradually diminishing percentages of cases are to be found for all of the various group size intervals. Of interest is the variation in length of time spent in the activity as the size of the group changes. Where the activity was carried out alone, the average duration was 25 minutes; in cases revealing the presence of one other person, the average duration was one hour (59.7 minutes). This means that daily devotionals are usually carried out in solitude, whereas church attendance most frequently involves, besides the public in the church, the presence of one other person, at least, who accompanies the subject.

With whom do people attend church? The largest number

of cases (16.9 per cent) list the presence of members of the family, and 12.2 per cent list friends. Thus churchgoing, at one time a purely family affair, reveals a comparatively large number of cases involving friends. The probabilities are that, had our subjects been older, there would have been a larger number of cases listing the presence of family members.

It is pertinent, at this point, to speculate as to the reason why the subjects average 1 hour and 15 minutes (74.7 minutes) when in the company of family members, 55 minutes when in the company of friends. Inasmuch as certain preliminaries and concluding periods of church ceremonies enable a slight amount of personal choice in the time to be devoted, it is possible that the presence of family members acts to enforce greater conformity with religious obligations than does the presence of friends. This would be especially true of our subjects, as their friends are in all probability quite young.

Active Arts and Crafts. Only isolated cases of the presence of others in this activity are shown in the records, and these groups are so large as to suggest the presence of a class. It is comprehensible that these avocational interests, which to many are of the greatest importance as a source of creative expression, are carried out alone, without others to witness failures or successes. In writing, solitude is almost a requisite. Although the cases are few where other people are involved, it is interesting to note that they indicate a shorter average amount of time spent than in those cases where the individual subject was alone. This would tend to substantiate our previous argument.

Attending Lectures. This activity is definitely "public" in that only 20.8 per cent participated in it alone (besides the public present). A scattering of cases lists the presence of several other people, but the largest number of cases lists the presence of only one other person. Friends are indicated by a majority (63.4 per cent), while family members are listed by 18.8 per cent. It is interesting to note that, in increasing order, more time is spent in the activity when alone, when with family members, and when with friends.

Ceremonies. In all listings except one, the presence of five or

more other people is shown, a result that was to be expected, considering the nature of the activity. That friends are listed more frequently than members of the family may reflect the youth of the subjects and the fact that several of the five listings are weddings.

Civic Activities. There are others present in each case, usually a large number.

Gardening. The majority of cases indicate that the activity is indulged in alone.

Study. Studying, as an activity, usually necessitates solitude and quiet, and we note that 86.4 per cent study alone. It is interesting to observe that in the few cases where others are involved the average amount of time devoted is some 15 minutes less than when the subject is alone.

CHAPTER XII

SUMMARY OF THE RESULTS ON SOCIAL CONTACTS AND PARTICIPATION

AT THIS point we shall sum up concisely the results given in the preceding chapter.

1. *Solitary, Non-Solitary, and Intermediate Activities.* First, all the activities studied fall easily into three classes: (1) *those by their nature requiring the presence of other persons during their performance* and involving it, without any exception, in our data. Such are: talk, ceremonies, civic activities, correspondence, courting, dancing, entertaining, organized indoor sports, telephoning, picnics, playing with children, social activities, unorganized outdoor play, visiting, and "with family." The bulk of these activities is of a pleasurable, hedonistic type, in which the interacting parties stimulate each other and give mutual pleasure. (2) *those performed mainly, in more than 50 per cent of all recorded schedules, in solitude.*¹ Such activities are, besides sleep, personal care, household activities — physical (49.3 per cent), reading (all three sub-divisions), active arts and crafts, errands, exercise, gardening, hobbies, idling, men's household activities, miscellaneous, musical activities, religious activities, shopping, study, and women's indoor activities. These activities with very low degrees of social contacts involved may be reclassified into two groups. The first of these — including personal care, household activities — physical, errands, men's household activities, and shopping — are, in the main, chore-type activities. Involving little pleasure and being frequently tedious and unpleasant, they afford little incentive for others to join the subjects. Those in the second group — consisting of reading, active arts and crafts, hobbies, idling, musical

¹ This means that no other person *actively* participates in the activity of the subject; for instance, no one accompanies him to a concert or to church. The solitude referred to here does not exclude a multitude of people in the concert hall or church.

activities, religious activities, study, and women's indoor activities — involve a certain amount of self-expression on the part of the subjects, or by their nature demand concentration and freedom from a disturbance by others — hence their solitary character.

(3) All other activities are of intermediary nature, performed to some extent in solitude, often (but in less than 50 per cent of the cases) in the presence of other persons.

2. *Typical Number of Persons in Each Activity.* At this juncture the typical number of persons present in each of the activities studied may be summarized.

(A) "Couple-activities." Certain activities reveal a clustering of cases about the one other and three other persons intervals, thus indicating either the *one or two couple group*. Such are the following activities: auto-riding (pleasure), amusements, courting, dancing, entertaining, indoor games, observing games and spectacles, organized outdoor sports, refreshments, and unorganized outdoor play. Although the importance of the couple arrangements is attributable in certain of these activities to the necessity of having two or four people present by the very nature of the activity (e.g. indoor games, courting, and dancing) courting and the sex element are undoubtedly a prime factor in accounting for the above. In the nature of refreshments or observing games and spectacles there is no inherent factor that dictates a couple formation.

(B) The *presence of six to ten other people* reveals a larger social group than is normally found to be involved in the behavior of our subjects. It is larger than the average family, it frequently eliminates the possibility of couple arrangements, and, in general, it denotes a somewhat formal character of the grouping. Those activities in which 5 per cent or more of the person-days participating list the presence of six to ten other people are as follows: work, talking, ceremonies, entertaining, dancing, cards (4.6 per cent), idling (4.9 per cent), indoor games, observing games and spectacles, organized outdoor sports, picnics, play, social activities, and visiting.

(C) Listing the ten *activities with the highest average num-*

ber of other people involved, we find the following: picnics (8.9), ceremonies (8.5), social activities (7.7), work (5.2), organized indoor sports (4.0), civic activities (3.8), indoor games (3.5), entertaining (3.5), play (3.2), and observing games and spectacles (3.1). This listing coincides very closely with that grouping of activities listing the presence of six to ten other people in 5 per cent or more of the cases participating.

In Part II we saw that these activities are participated in by only a small fraction of the group. When listed, they consume a comparatively long period of time, and usually occur sporadically and only once during the days of occurrence.

(D) *The activities with the lowest average number of other people involved* are as follows: personal care (0.1), correspondence (0.1), study (0.2), reading books (0.3), hobbies (0.3), women's indoor activities (0.4), exercise (0.4), reading magazines and papers (0.5), shopping (0.5), and errands (0.6). This itemization is largely a re-listing of those activities previously noted for the fact that 50 per cent or more of the persons showed that no one else was involved. They are, in general, activities of either the creative type or the chore-type.

3. *Comparative Frequency of Activities: Solitary; With One and More Persons Present.* If we take the total number of daily activities with reference to the size of the group involved, if any, we obtain the following results.

(A) *The largest percentage of activities were carried out alone (31.4 per cent).* Inasmuch as sleep, with its long average duration, has not been included in the computations, this figure is highly indicative of the predominantly solitary nature of a large part of the day's behavior. This percentage is surprisingly high in view of the fact that our subjects are all urbanites and predominantly young (as will be shown further, the younger subjects have a higher average degree of social involvement than the older subjects).

(B) *Next in importance are the activities performed in the presence of one other person, or the one couple group, which account for 30.34 per cent of the total listings.* The high percentage of such groupings — in comparison with the percentage

of listings for the other group sizes — strongly illustrates the importance of the *marital* couple, the *courting*, *flirting*, "*spooning*" couple, and, unquestionably, the "*friend*" or "*pal*" group.

(C) The three other people involved, or the *two couple*, group, is entered in 11.11 per cent of the total listings.

(D) The two other people involved group is listed by 10.65 per cent. This low per cent of the three person group attests the verity of the proverb, "Two is company, and three is a crowd."

(E) The large groupings studied, i.e., the six to ten, eleven to twenty, and twenty-one or more other people involved groups, account for a total of 7.67 per cent of the total listings. Finally, four other people give 4.82 per cent; five other people 3.01 per cent, and unknown 1.04 per cent of the total listings. These figures reflect the prevalence of solitary or couple arrangements in the subjects' behavior.

4. *Relation between Time Spent and Number of Persons Present.* Several times we have pointed out that *certain activities show a tendency for the average amount of time spent to increase as the number of other people involved increases.* The following activities show this tendency: meals, men's household activities, transportation, women's indoor activities, idling, radio, talking, amusements, cards, refreshments, visiting, play, observing games and spectacles, religious activities, and miscellaneous. The chore-type activities found in this listing may be explained by the fact that the presence of others serves as an inhibition to the efficient carrying out of the act, thus serving to lengthen the actual amount of time involved. The remainder of the activities listed above are mainly unorganized and definitely of the leisure or recreational type. The presence of others in such cases seems to facilitate spending a longer time in such activities, whatever the concrete motive may be: increased pleasure, inconvenience in breaking off the companionship, or the need of longer time in order to finish the card playing or to serve all with refreshments, etc.

Of equal interest is the *small group of activities showing a*

tendency to consume less time as the size of the groups involved increases. Personal care, health, and work reveal this tendency. In work various and often opposite reasons lead to this result. In personal care the more intimate aspects of this activity, which account for the largest part of the specific entries, are carried out in solitude within the privacy of one's room, and possibly less hurriedly than when other persons are present. The figures for health may be attributed to the fact that a person who is ill stays in bed, except for those brief intervals when he is able to receive visitors.

One further result must be noted, namely a *tendency for certain activities to show a sharp decrease in the average amount of time spent as the size of the group increases from that of four or five other people involved to the largest group size (eleven to twenty and more).* Here again we meet the Principle of Limits referred to earlier. This was found to be true of the following activities: idling, talking, smoking, reading magazines and papers, reading books, cards, observing games and spectacles, religious activities, transportation, and walking (to a destination). In certain of these activities, for example, reading, it is readily explained on the basis of the added distracting elements present when others are grouped about the reading subject. The majority of the activities listed above, however, must be explained otherwise.

Small groups have constantly been associated in sociological researches with primary or cumulative groups, whereas large groups have been associated with secondary or "interest" groups.² The former are shown to involve face-to-face or closer and more congenial relations, whereas the latter frequently involve either indirect or less intensive and more superficial relations. Consequently, it logically follows that the smaller groups, involving more numerous and more intensive common interests, would persist for longer periods of time in their activities than the larger groups, with their one or two superficial common interests. It therefore follows that the tendency of the subjects to spend much less time when the

² See the details in Sorokin, *Social and Cultural Dynamics*, vol. III, Chaps. 1-4.

groups are large is explained by, and lends substantiation to, the sociological analyses given above.

5. *To What Social Groups is an Individual Exposed? In What Activities? And How Frequently?* It has already been pointed out in the introduction to this chapter that types of social contacts most frequently entered into by individuals, the group to which individuals are exposed most frequently and for a long time, and the proportionate significance of each type of relationship in the individuals' lives give rise to the most important problems of sociology. Our data elucidate many of the aspects of these problems.

The seven categories of relationship studied for our subjects are as follows: (1) business associates, (2) casual acquaintances, (3) family members, (4) friends, (5) neighbors, (6) relatives, and (7) strangers. In addition, our analyses of the relationship of the other people involved in each activity made note of the "unknown" and "none" categories.

The percentage of the total person day records listing each of the various categories of relationship is as follows:³

RELATIONSHIP	PER CENT OF TOTAL CASES
None	36.13
Friends	35.67
Family members	24.09
Business associates	8.85
Relatives	3.15
Casual acquaintances	1.26
Unknown	1.06
Neighbors	0.78
Strangers	0.20

These figures are among the most important yet presented in the study. Bearing in mind that these percentages summarize the social composition of all groups entered into by our subjects

³ It will be noted that the total is well over 100 per cent. This is due to the fact that several types of relationship may have been involved in one period of activity, and that several periods of activity of the same nature during one day would result in several combinations of relationship. This explains also why here the percentage for "none" is 36.13 instead of 31.04, given above. Therefore, no total should be taken of the individual categories.

over the four-week period during which schedules were collected, we may add that their import is enhanced by the extensiveness of the material on which they are based.

(A) *Solitary activities.* The largest number of listings belongs to the activities performed in solitude (these figures do not cover the activity of sleep) and thus coincide with the conclusions given before.

(B) *Activities with Friends.* The fact that a larger percentage of listings indicate the presence of friends than family members is highly informative. Various theoretical and statistical studies have suggested the declining rôle of the family and the increasing importance of "interest groups" in contemporary society. Our material tends to substantiate these hypotheses. While it is true that the disproportionate number of women and young people living outside of their families may bias our material in favor of friendship groupings, we may treat the figures without further refinement until reaching the chapters on sex and age variations.

Those activities in which 50 per cent or more of the schedules list the presence of friends are as follows: auto-riding (pleasure), amusements, lectures and concerts, cards, ceremonies, courting, dancing, entertaining, indoor games, observing games and spectacles, organized indoor sports, organized outdoor sports, phoning, picnics, play, refreshments, social activities, theatre, unorganized outdoor play, visiting, walking (pleasure). (See Appendix, Table 4.)

This considerable list includes almost all of the pleasurable or leisure activities, and, what is most pertinent, does not include one maintenance or chore-type activity. The high percentages holding for most of these activities indicate that the family as a recreational or leisure group, for our subjects, is of only secondary significance. Caution must be exercised, of course, in the light of the biases mentioned above and because of the fact that we are analyzing an urban group. These data, however, indicate a radical departure from the important rôle played by the family in leisure and recreational pursuits within a familistic cultural pattern. In only one activity on the entire

list, that of gardening, do we find no mention of the presence of friends.

We may conclude, therefore, that *for our subjects the friend groupings are the most numerous, and are especially important with reference to recreational and leisure pursuits.*

(C) *Activities with Family.* A similar listing of those activities revealing that 50 per cent or more of the schedules studied show the presence of family members is as follows: meals, household activities — physical, radio, cards (49.0 per cent), household activities — personal, playing with children, smoking (49.8 per cent), and “with family.”

“With family” and “playing with children” by their very definition involve a large percentage of family members. Playing cards is an activity which also appeared as one of those activities in which more than 50 per cent of the person-day records reveal the presence of friends. Apart from listening to the radio (which may be explained by the fact that the use of the radio in one’s own home is most frequently listed because it is the most accessible), we note that the other activities are of the maintenance type, or of the chore-type, or of the sort in which a real help and sacrifice, as in personal altruistic activities, is needed. Few leisure or recreational activities, therefore, in the cases of our subjects, involve the family members to a great extent.

Nonetheless, it should be pointed out that the only activities not showing the presence of family members at all are: hobbies, courting, active arts and crafts, and organized indoor sports. These activities have, in each case, individual explanations. Thus, *although we find that the family groupings are not listed as frequently as the friend groupings, the family does play a very substantial and constant rôle in the behavior of the subjects, especially in the most necessary and important activities.*

(D) *Activities with Business Associates.* Somewhat surprising is the large percentage of cases listing the presence of business associates. This relationship category involves two general types of association, that of co-workers and that of employers and employees. High percentages of listings were anticipated

for activities such as work, but the comparatively high percentage of cases in activities not directly connected with economic endeavors was totally unexpected. The percentage of the total cases listing each of the following activities indicating the presence of business associates is as follows: meals (30.3 per cent), walking (to a destination) (54.2 per cent), transportation (26 per cent), talking (40.6 per cent), idling (17.8 per cent), social activities (39.3 per cent), smoking (16 per cent), and walking (pleasure) (14.9 per cent). These activities are the categories showing the highest number of listings of business associates where the activity is not one which would directly involve people of that relation.

Bearing in mind that the schedules were collected over a period of several weeks during which the majority of the subjects had come in contact with one another for the first time, one may speculate as to the extent of social groupings involving business associates that would have been found had the subjects been working with one another for a year or more. In the light of these data it is comprehensible why "workers' unions," "co-workers' groupings," and similar solidarities play such an important rôle among the groupings and solidarities of our social world. On the other hand, all of the activities listed above are of the type that could be carried on either just prior to, just following, or during the working periods. In only a few cases do we note a listing of business associates in activities totally unassociated with the working periods.

(E) *Activities with Relatives.* Relatives, the relationship category next in importance, may also be treated as the larger family group. Three characteristics of the group may bias the data with reference to the frequency of contacts with and exposure to relatives. The first is that our group is predominantly young and would thus be less inclined to recognize the larger familial bonds than the older members of the same group. The second factor is that a large number of the subjects are children of either first or second generation immigrant stock, a characteristic which may or may not lead to the small attention paid by the members to their relatives. Third, many of

them lived apart from their families and their relatives. Whatever the reasons are, our data indicate that relatives play for our subjects a rôle far less important than that of business associates.

The percentage of cases listing the presence of relatives in the various activities is consistently small; we give here those activities in which 5 per cent or more of the cases listed relatives as being involved: meals, auto-riding (pleasure), talking, radio, amusements, cards, entertaining, household activities — personal, observing games and spectacles, playing with children, visiting, and walking (pleasure).

The majority of these activities may be but specialized aspects of visiting and entertaining. Thus, a visit on a Sunday afternoon might involve the meal, talking, a brief auto-ride, playing cards, a walk, or playing with children, or any combination of these. While hardly conclusive, this hypothesis, if true, would indicate that very little social contact other than the purely formal visits and periods of entertaining takes place with the subjects' relatives.

(F) *Activities with Casual Acquaintances.* Casual acquaintances, with a total listing by 1.26 per cent of the person-day records studied, also give a somewhat unexpected figure. With the alleged increase in secondary groups within contemporary society, and with the implied large number of contacts of an incidental nature typical of an urban culture, a high percentage of listings had been anticipated for the relationship category of casual acquaintance. It is quite possible that friends were listed in several cases where casual acquaintances would have been the more appropriate designation, but this possible error hardly accounts for the extremely small figure. The activities indicating the presence of casual acquaintances in 1 per cent or more of the total person days participating are as follows: active arts and crafts, attending lectures and concerts, civic activities, dancing, entertaining, health, indoor sports, organized outdoor sports, shopping, and visiting.

(G) *Unknown.* Our "unknown" category is uncomfortably high. A large proportion of these entries, however, would

ordinarily have been placed in the "none" category. Certain records exhibited a tendency to omit the number of other people involved in activities which by their nature implied that the activity was indulged in alone. In order not to allow chance to spoil the accuracy of the picture, the type of relationship and the number of other people in such cases were classified as unknown.

(H) *Activities with Neighbors.* A great deal has been written on the declining importance of the neighborhood group in urban areas, and the behavior of our subjects serves to corroborate this general impression. The presence of neighbors is listed by more than 1 per cent of the total person-days showing participation in the following activities: walking (to a destination), transportation, auto-riding (pleasure), talking, radio, cards, entertaining, gardening, miscellaneous, playing with children, religious activities, study, visiting, and walking (pleasure). These activities are, for the most part, of the type which may be explained in terms of mere physical proximity. In leaving home or returning home, one would be quite likely to meet neighbors, and thus the presence of walking (to a destination), walking (pleasure), transportation, and religious activities is accounted for. Gardening, playing with children, visiting, and entertaining are also activities which involve neighbors. Still, the small percentage of cases listing this relationship category clearly indicates the slight importance of the neighborhood for our subjects.

(I) The few cases revealing the involvement of *strangers* is too small to warrant lengthy comment, although once again we may express surprise at the low figure in view of the fact that we are studying young people in an urban area.

6. *Variations According to Age, Sex, and Days of the Week.* A study of the problems of this chapter in their variations according to sex, age, and days of week gave no important results. The reason for this undoubtedly lies in the limited number of persons and schedules. Therefore we can mention briefly only a few results which may or may not be of significance.

(A) *Sundays show the lowest frequency of solitude* in the

sense of the absence of numbers of other persons in most of the activities. *Next come Saturdays, and last, Tuesdays.* This means that for our group, and probably many others, the weekend involves comparatively the largest number of social contacts and interactions of the face-to-face type. Considering the range of the activities participated in more commonly on weekend days than on Tuesdays, such a conclusion is what should be expected.

(B) As to the sex difference in this respect, the main variation, though not very conspicuous, is that, all in all, the *female records disclose a somewhat more frequent occurrence of the larger groups present than the male records.* Considering the younger age-composition of our females and the higher marriage ratio among men, together with a greater participation of the females in various pleasurable activities performed among other people, such a result possibly reflects a real difference between the sexes of our group.

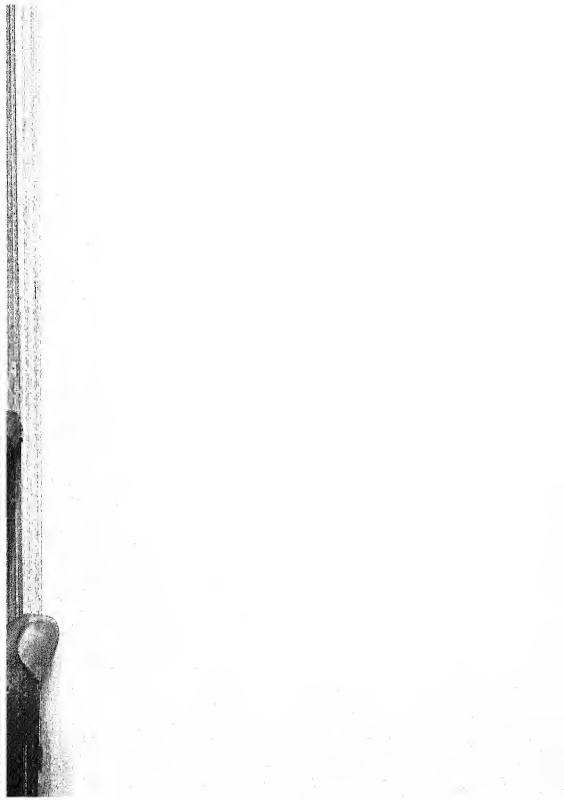
(C) As to age differences in this respect, the *younger age-groups should be expected to be more "sociable" and in fact do show a higher number of persons involved in their activities than the older age-groups.* Meals, walking (to a destination), transportation, work, radio, amusements, cards, entertainment, indoor games, observing games and spectacles, and walking (pleasure) are the activities in which younger age-groups exhibit a higher number of other persons involved than the older persons. The older age-groups have a higher number of other persons present than do the younger persons in only the following activities: health, playing with children, reading, and miscellaneous. Such a result corroborates a general belief that younger persons nowadays display a greater amount of social participation than their elders.

7. *Summary.* In conclusion the following general statements sum up this chapter. First, the subjects reveal more listings of no other people involved than they do of groups of any size. Second, the group size most frequently listed is that of one other person, the one couple group. Third, a concentration of listings is apparent at the one other and three other persons, or the one

and two couple groupings. Fourth, those activities most frequently engaged in alone are either of the chore-type variety or of the self-expression type. Fifth, those activities revealing the largest number of other people involved are, as might have been anticipated, the purely social activities. Sixth, many activities reveal a tendency for the average time spent to increase as the number of other people involved increases. Seventh, the previous statement must be modified by the tendency for many of the same activities to show a sharp decrease in average amount of time spent as the number of other people involved increases from the four or five other people interval to the largest group sizes (eleven to twenty, twenty and more persons). Eighth, friends play by far the most important rôle in recreational and leisure activities. Ninth, the family is most frequently involved either in activities of the maintenance or the chore-type or altruistic variety, or activities associated with lounging about the house. Tenth, business associates are shown to play a very important rôle in social activities, although the social activities are temporarily related to the work itself. Eleventh, relatives play a comparatively minor rôle, and that rôle is possibly of significance only in formal social activities. Twelfth, casual acquaintances, despite the fact that the group under study would theoretically appear to be the most fertile sampling for relationships of that type, are of slight importance. Thirteenth, the small and diminishing rôle of the neighborhood is corroborated by our data. Fourteenth, Sundays and Saturdays are less "solitary" than weekdays. Fifteenth, women perform a greater number of their activities amid a larger number of persons than men. Sixteenth, younger age-groups display a larger amount of "social participation" than the older age-groups.

PART V

PREDICTABILITY OF HUMAN ACTIVITIES AND OF
SOCIAL PROCESSES



CHAPTER XIII

RESULTS OF AN EXPERIMENTAL STUDY IN PREDICTION OF ONE'S OWN BEHAVIOR

1. *Total Error of Prediction per Day (in Minutes)*. The data gathered in studying the various aspects of human behavior furnished excellent material for an experimental investigation of the problem of predictability in the life situation. Since this is an age of "social planning," "social engineering," and so-called "scientific forecasting of the social processes," we wanted to probe into the validity of the belief in such possibilities. Aside from the immense variety of such notions in modern folklore, many "scientific" and pseudo-scientific treatises abound with similar assurances. Even the most competent scholars using the most advanced "scientific techniques" have been guilty of gross blunders, especially in the matter of business "forecasting" before and after 1929. Presumptuous predictions have been made, but not recently, concerning the disappearance of war, the panacea afforded by the League of Nations, the rising tide of democracy, the realization of a Utopia in Soviet Communism or in the New Deal, and so on. These and numerous other conspicuous failures should engender the utmost caution. It is not our purpose to investigate here the possibilities of prediction on a grandiose scale, but rather to state the results of an experimental investigation made in the simplest setting of the problem. The inquiry was confined to the following question: Can one predict accurately one's own behavior twenty-four hours in advance — forty-eight hours — a week — a month — for the next Sunday, or a month from the next Sunday?

It is reasonably certain that one can foresee one's own activities better than those of other persons, and, in the latter instance, the activities of intimates more effectively than those of strangers. Likewise, self-prediction should involve a clearer

idea of the expected variables than the estimation of the direction of complex social processes.

The procedure used in this study was as follows. One hundred and six individuals in the group were asked to predict their own behavior for each of the previously mentioned days, listing exactly all the activities which would occupy them on the stated days from the moment of rising to that of retiring. Any activity with a duration of five minutes had to be listed separately, and activities with longer durations were to be listed at the moments of beginning and ending.

All predictions were made on the first four weekdays. Each individual was provided with a set of six blank time-schedules and asked to enter each activity he (or she) predicted he would engage in for five minutes or more on each of the six dates. The subjects were also asked to state the time period (e.g., 10:30 A.M.-11 A.M.) of the day each activity would be engaged in. Each of these one hundred and six individuals was then asked to keep actual records of his behavior for the period of days covering his prediction sheets.

Following the receipt of the actual behavior records, we compared each prediction sheet with the actual record for the corresponding day. Deviations or errors in prediction were then computed. Unless otherwise stipulated, all errors or deviations were treated as absolute errors. A plus deviation or error indicated that more time was actually spent on a certain activity than had been predicted; a minus deviation or error indicated that less time had actually been spent on the activity than had been predicted.

The first results to be considered are the *average errors in prediction per individual per day*. Prediction for "tomorrow" for the 106 cases erred on an average of 305 minutes per day, an error in prediction of fully one-fifth of the day. Large as this figure is, it acquires still greater significance when one realizes that it includes both the sleeping and the active day. Were allowances made for the approximate 7 to 8 hours that each individual was found to spend in sleep, this error in prediction would assume even greater proportions. A further note to be

made is that these figures represent only the error in prediction of total time to be spent on certain activities. No consideration was given to the performing of an activity at a time other than that predicted, provided that the predicted amount of time had been devoted to it. Had this been done, the error noted above would have been extended considerably. The first conclusion then is that *individuals in our group correctly predicted from three-fourths to four-fifths of their behavior for the next twenty-four hours.*

The next results are that the average error per day per individual for the "day after tomorrow" prediction is larger, averaging 353 minutes, or almost 6 hours of the day. The average error for the "one week from today" prediction dropped to 331 minutes. This decrease may possibly have its explanation in the fact that there is a certain rhythm to activities on the same days of the week. "One month from today" predictions gave an average error per day per individual of 494 minutes, or over 8 hours. Average deviations for the "this coming Sunday" and the "one month from this coming Sunday" predictions were 473 minutes and 536 minutes respectively. Thus, *with the exception of the "one week from today" prediction, we find an increasing error with increase in the length of time that separates the predicted day from the moment of prediction.*

2. *Average Deviation of Prediction per Activity.* The figures above were with reference to the total error in prediction per day per individual. We may now consider the *average deviation per activity* per individual. It should be noted that the extent of the deviations here will depend to a great extent upon the minuteness or broadness of our activity categories. Hundreds of various activities were found and condensed into 125 categories, with each category containing all activities of a similar nature. For the six prediction dates the average error per activity was found to be 49 minutes for the "tomorrow" predictions; 56 minutes for "day after tomorrow"; 53 minutes for "one week from today"; 81 minutes for "one month from today"; 81 minutes for "this coming Sunday"; and 97 minutes for "one month from this coming Sunday." Thus, here again,

the further in the future is the day predicted the larger is the error of prediction.

3. *Variations of Errors of Prediction in Specified Activities.* Having presented facts for total errors in predictions, we obviously need to investigate these errors with reference to specific activities, inasmuch as certain activities may show a consistently larger error and others a consistently smaller error.

Samples of the average deviations were: for sleep, 75 minutes; for transportation, 60 minutes; for meals, 42 minutes; for personal care, 43 minutes; for radio, 70 minutes; for visiting, 118 minutes; for household activities, 70 minutes; for talking, 43 minutes; for walking, 69 minutes; for reading, 68 minutes; for work, 125 minutes; for rest, 65 minutes; for shopping, 44 minutes; for movies, 163 minutes; for church, 58 minutes. It should be noted that these errors are the average for the entire six prediction days. Thus, movies, work, visiting, radio, household activities seem to be less accurately predicted than other activities in their duration.

4. *Errors in Prediction of Activities.* From this standpoint, such activities as sleep, meals, personal care, and work were always predicted and always carried on, while such activities as reading, talking, visiting, radio, resting, shopping, movies and, to some extent, household activities, most frequently appeared in both columns — that is, were predicted but not carried on, or were not predicted but carried on. This means the *physical need and partly economic activities, which, as we have seen, are universal for our group are most stable in human behavior, and therefore predictable, whereas the activities, especially of the pleasurable type, in which only a small per cent of the subjects participated (see above, Chapter VIII) are most variable and least predictable, not only in their duration but especially in their correspondence to the expectation of carrying them on or not.*

5. *Over-Predicted and Under-Predicted Activities.* A further interesting point is a comparison of those activities which were predominantly over-predicted with those frequently under-predicted. It was revealed that the people in our group antici-

pated spending a greater amount of time on such activities as talking, walking for pleasure, visiting, smoking, radio, and movies than they actually did. On the other hand, they actually spent more time on such activities as sleep, personal care, meals, household activities, reading, resting, work, transportation, walking of the non-pleasurable type, and shopping than they had predicted. A comparison of these two groups shows that the *frequency and duration of commonplace and comparatively unattractive activities were mostly underestimated, whereas those of the more enjoyable and pleasurable activities were overestimated.*

Before passing on to the last phase of our discussion, one important qualifying factor must be presented. At the time all the subjects who volunteered for the experiment were employed on a government project, and had formerly been unemployed. This unquestionably resulted in their being somewhat unsatisfactory subjects, inasmuch as their behavior probably was less stable than normal. They were at the time employed by the government, however, and assured of work for months to come. The figures secured, even if shaded to some extent, can still justify a contention that an accurate social predictability is not at present possible.

6. *Variation of Accuracy of Prediction by Sex, Age, Marital Status, Income, Occupation, Education, Religion, and Weather Conditions.* Turning to a study of the variations in accuracy of predictions with reference to certain social groupings, the main results are as follows.

As to sex differences in accuracy of prediction, we note that *men, with an average error per activity of 64 minutes, tend to predict more accurately than women, who had an average error per activity of 74 minutes (average for all six days).* Whether the difference is due to sex or (what is more probable) to the age factor (the women are younger than the men in our sample) or to some other, we cannot say definitely. We have already called attention to the fact that men were relatively under-represented in the sample.

Age groupings were next considered, with the following re-

sults: under 20, an average error per activity of 77 minutes; 21 to 30, an average error of 70 minutes; 31 to 40, an average error of 64 minutes; 41 to 50, an average error of 63 minutes; for 51 or more, an average error of 56 minutes. Thus we see a *definite decrease in error of prediction and a consequent increase in stability of behavior with increasing age*. This supports our previous statement that the sex differences are probably due to the age factor rather than to the sex factor properly. Again, however, the smallness of the sample, particularly for the older groups, makes it difficult to state the conclusion with any certainty.

Further tabulations were made with reference to *marital status*. The number of divorced was too small to be of significance, and only comparisons of the error in predictions of the single and the married could be made, with the following results: *single, an average error per activity of 90 minutes; married, an average error per activity of 67 minutes*. We would normally assume the single to have a less stable life than the married, and the figures bear this assumption out. Nevertheless, it must be noted that these conclusions are undoubtedly related to the age differences noted above.

Interesting also are the results with reference to *income and the ability to predict*. Without delving into the figures it may be pointed out that *from the "under \$10 weekly" class to the \$41-\$50 weekly class there is a steady decrease in error of prediction; whereas from the latter group to the highest groupings (\$51 to \$100) there is a slight increase in error of prediction* (71.3 minutes for less than \$10; 67.9 for \$11-\$20; 66.2 for \$21-\$30; 64.8 for \$31-\$40; 55.2 for \$41-\$50; 56.1 for \$51-\$75; 56.6 for \$76-\$100). Thus, our figures show that the low income brackets have the greatest degree of error and possibly the highest degree of behavior instability, whereas the middle income groups show the lowest error in predictability and a possible greater stability of behavior.

In attempting to correlate ability to predict or stability of behavior with *occupational status and education*, we found no clear-cut, significant associations. *For education*, the average

deviations are 67.61 minutes for those who had grade school training; 72.44 for night school; 71.79 for those who had a high school education; and 69.81 for those who had some college education. In regard to *occupation*, the average deviations are 91.5 minutes for those who had no previous occupation; 68.7 minutes for clerical workers; 69.3 minutes for skilled labor; 75.2 for professionals; 62.3 for business; 72.1 for executives; and 74.9 for all others. Thus, the most accurate predictors are those who have been engaged before in business; the least accurate those who had not had any occupation before their enrollment in the army of the unemployed and their support by the Federal Government.

A study of the association of ability to predict with religion gave interesting results. *The average error per activity for Protestant groups was 64 minutes, for Catholics 69 minutes, for the Jewish 81 minutes, and for others, consisting mainly of atheists, 70 minutes.* To what extent these results are general we cannot say; however, they are worthy of a further investigation. If they happen to be general enough the uniformity will be of some importance.

Finally, an investigation of the relationship between the accuracy of prediction and weather condition has shown that on *rainy days the error of prediction tends to be notably higher (88.71 minutes) than on "normal" non-rainy days (69.53 minutes).* Rain, like any other irregular interfering factor (storm, flood, earthquake, epidemics, strike, social disturbance, etc.), tends to upset an established routine, shortens or prolongs the expected duration of each activity, and in this way leads to an increase in error in prediction.

CHAPTER XIV

GENERAL CONSIDERATIONS ON PREDICTABILITY OF INDIVIDUAL BEHAVIOR AND SOCIAL PROCESSES

1. *Predictability of Individual Behavior and Life Course.* The results discussed in Chapter XIII point to the probability that, despite individual variations in the accuracy of prediction of behavior, the average results would hardly be very different. In normal social and other conditions our group seemed able to predict its activities for tomorrow and the day after tomorrow with accuracy for some two-thirds to four-fifths of the total time involved but not with an accuracy of 100 per cent.

These and other results seem to entitle us to make the following approximate deductions whose validity is probable but still needs to be tested by the study of other and larger samples.

(A) *Other conditions being equal, the further in the future the day predicted from the day of prediction, the greater the error is bound to be.*

(B) *The prediction of the more "universal" activities, like the economic and those of physical need and personal care, is likely to be more accurate than that of the variable and less "universal" activities, like many pleasurable, intellectual, artistic, religious, and societal ones.*

(C) *The more stable and routine the social life in which an individual lives and acts, the more clock-like its functioning from day to day, the higher the accuracy of prediction.* In a revolutionary society or one in similar turmoil, accuracy of prediction is less possible and is bound to be less precise because, as the observation and study of the senior author shows, there is an incessant interference by many unforeseen and unexpected factors which frequently upset the prediction entirely.¹

¹ In 1920 the problems of this study were investigated by the senior author along similar lines in Russia. A considerable number of sheets was collected and began to be studied. The banishment of the author put an end to the study and led to the loss of the material collected; however, on the basis of a pre-

The less stable the social life, the greater the error of the prediction. The factors responsible for lack of regularity and routine stability in a society may be of different natures: social, biological (black plague, epidemics, etc.) or climatic (storm, hurricane, flood, etc.), geological (earthquake, eruption, etc.), or physico-chemical, but, no matter what the factor is, as soon as it upsets the habitual and established routine of social processes in a given society, it creates conditions in which accurate prediction of one's own behavior becomes much more difficult. And this concerns not only predictions for tomorrow or one month from now but also for the remote future and for one's own destiny. Such conditions have often made slaves or criminals of kings, kings and dictators of slaves, poor men or millionaires, or *vice versa*. In brief, such irregular conditions increase enormously the unforeseen "turns" and "surprises" in one's behavior, life, and destiny.

(D) *The more variable and "erratic" the behavior of a given person, the less it can be predicted.* This proposition is, so to speak, self-evident, assuming the other conditions as equal. A case of this we have seen above in the greater error of the pre-

liminary study of the material collected and on the basis of his own observation and "time-budgets" he is prepared to back those findings as essentially accurate. During the revolutionary years 1917-22 transportation conditions were sometimes so irregular that trains and street cars frequently stopped for long periods, and one who expected to spend thirty minutes on a train sometimes had to wait three or four hours before it resumed its motion or else had to walk a distance of several miles, which took a longer time and often ruined the plan of the day. Sometimes one was arrested by Red policemen in mass ambush and carried on in jail or the place of detention a set of activities fundamentally different from the expected ones. Sometimes—and often enough—arrest or sickness or the death of a relative or friend led to similar results. Furthermore, in starving Leningrad, with endless lines at the governmental stores, one never could say how long a time one would have to stay in line before he would get his quarter of a pound of bread or herring, or cigarettes, or whether one generally would be given what was promised. Very often the bursting of drainage or water pipes in one's apartment house made it necessary to cope with such an emergency for hours. And so on. As a result, in such a society the deviation between the predicted activities for tomorrow and those carried on was much greater than in this study.

A revolutionary country is, of course, only one among many cases of unstable and exceedingly variable conditions and processes in a disorderly and irregular society. Such irregularities may be caused by many other factors, such as war, earthquake, pestilence, flood, storm, strike, fire, explosion, etc.

dictions by the younger age-groups when compared with the older age-group, and then by the single as compared with the married. The fact that the greatest error in prediction was made by those who had not had a previous occupation is perhaps also explained by this general uniformity.

(E) *As a rule one can predict one's own behavior more accurately than that of other persons, and among these others the behavior of a well-known friend better than that of an unknown person.*

Such are some of the propositions suggested by the results of this study which concern prediction of the behavior and activities of an individual or individuals.

They indicate that, to some extent, we may be able to anticipate correctly our own and other persons' behavior, but that the extent is very limited. Aside from commonplaces, such as that every person sooner or later will die, or that most individuals have no chance of becoming president of the United States or a Roman Catholic pope, or that a person unmarried up to the age of seventy-five is not likely to marry, and so on — aside from these and similar predictions, *in the wider field of one's destiny and life-career there always exists the likelihood of surprises and unexpected turns.* Who could foresee that a driver of camels would become the founder of one of the great religions, or that a Corsican boy would be an emperor of France, or that a country boy would become a contemporary Stalin, or Mussolini, or Hitler?

Even less exceptional and more ordinary events in the life of an individual, such as choice of an occupation, marriage, having children, acquiring wealth and fortune, illness, death, joy and sorrow, and so on, are hardly predictable with any accuracy in the life of a single person, and especially is this true with social processes as they are in most contemporary societies. In the present state of universal turmoil in our societies almost anything can happen to anybody in so far as these events, turns, and surprises are concerned.

With the proper knowledge, there is a limited possibility of foreseeing our own and, in a less degree, another person's be-

havior for a short time in advance. A continuation of serious and factual studies along the lines of this investigation may enlarge our knowledge and certainty somewhat. But it is easy to exaggerate beyond a reasonable limit both the present knowledge and the future possibilities in this field. Under the best possible circumstances we can hardly hope to predict an individual's life quite accurately, and especially to predict correctly the above "turns" and "surprises" in that life. In their bulk they are still so unpredictable that it is charlatanism to assert that science can now predict them.

Such limitations of our ability to foresee either our own or others' futures are, after all, perhaps to be welcomed rather than regretted. If most persons could read their futures clearly, and especially those whose lot is tragic and sorrowful, the fascination of life would be greatly diminished for many. The veil of mystery may indeed be a boon rather than a bane of existence.

So much about the prediction of activities, behavior, and life-destiny of individuals.

2. *Remarks on Predictability of Social Processes and Events.* Can we extend these results and propositions over the field of social processes and mass movements? Can we say that they can be predicted within two-thirds to four-fifths of complete accuracy? Such an extension of the results applicable to the behavior of an individual or individuals to the field of the social processes — their tempo, succession, and direction — could be made with doubtful success. The field of social and cultural processes and of mass movements is essentially different from that of individual behavior; therefore the rules applied to one cannot *eo ipso*, without a serious preliminary investigation, be applied to the other.

In predicting social and cultural processes, here we meet different obstacles and advantages from those in the field of the forecasting of individual behavior. Again, certain generalities can be predicted easily and accurately. We can predict, with a reasonable degree of certainty, for instance, that in any society some deaths, births, and marriages will take place, that the young- mature- and old-age groups will coexist in some propor-

tion, that in some way and to some degree it will be satisfying its physiological needs, and the like.

As soon as we go beyond such platitudes, accurate prediction becomes more difficult and less certain. First of all, as is patent, we do not have very solid bases for our predictions in the field of the social processes. If we could assume that a rigid determinism exists in this field, that our knowledge of social and cultural processes is adequate, that their variability is narrowly limited, or that experimental, inductive methods can easily be applied to their study, then the possibility of accurate prediction in this field would be large and serious. The factual situation, however, is different from these assumptions.

(A) As to the conflicting assumptions of determinism and relative indeterminism, both are of uncertain validity. A study of the comparative influence of these two theories from 580 B.C. to A.D. 1920 shows that they alternate in their rise and decline and in their domination at any one period: for instance, from the sixth century A.D. to the end of the twelfth century indeterminism dominates over determinism, while at other periods, for instance from the seventeenth to the twentieth century or from the third through part of the first century B.C., determinism has the upper hand over indeterminism.² If in the nineteenth century the deterministic credo was particularly fashionable and fairly generally accepted as the last word of science, in the light of a longer perspective it appears just a "mentality-fashion" which, like any fashion, comes, blossoms, and fades away. At the present time even in the physico-chemical sciences a belief in an iron determinism is over, melted down into a mere theory of probability. In the field of socio-cultural phenomena the variability has always been so great that we have virtually no rigid formula of the association, correlation, causal and functional dependence of two or more socio-cultural variables which can be accepted as definite, universal, and free from exceptions. We surely do not have any "scientific law" in a proper sense that formulates the socio-cultural uniformities. Consequently, we lack any definite and well-tested deterministic foundation

² See Sorokin, *Social and Cultural Dynamics*, vol. II, Chap. IX.

that permits us to stand firmly in forecasting the future direction of the socio-cultural processes.

If, however, we try to lean upon indeterministic assumptions, the situation becomes still worse, because the very concept of indeterminism means a denial of any uniform or definite relationship between two or more variables. By its very nature indeterminism in its application to human affairs rules out of existence all causal and functional uniformities. In one case A may be followed by consequence B; in another, by C; in a third, by D; and so on. Therefore the presence of A does not permit one definitely to expect that it will condition the consequence B, and not C or D or Z. Under such circumstances no forecasting of the future upon the basis of the past is possible.

Such considerations are sufficient to put aside both of the assumptions under discussion. These assumptions cannot serve as a reliable basis for any forecasting.

(B) Turn now to the second assumption of belief in the possibility of an accurate and valid knowledge of the processes involved and of forecasting their future direction, regardless of deterministic or indeterministic dogmas. *Savoir pour prévoir* and *prévoir pour pouvoir* are the popular formulae expressing this belief. Is such knowledge possible? Does it exist? Do we have at our disposal any formula that satisfies the requirement, especially if we put away the deterministic dogma?

We have just seen that even in such a comparatively simple problem as the prediction of one's own behavior twenty-four hours in advance, one can predict only from three-quarters to four-fifths of his activities, in circumstances free from unforeseen "accidents" and "catastrophes." If we try to predict somebody else's behavior, the deviation is likely to be much greater. If we try to predict our own or somebody else's behavior one year or several years from now the error, as the data show, in all probability will notably increase.

If such, then, is the situation with reference to the prediction of one's own behavior and that for only a relatively short period, how much more difficult is any *accurate*³ prediction of the be-

³ I mean *accurate* prediction and planning. Even fairly ignorant and foolish

havior of vast numbers of people under complex and little known conditions. To foresee *accurately* how every one of these millions would behave and what the results of such a complex of behaviors would be, under, let us say, the condition of the annihilation of private property, or under the NRA or AAA or the "Soak the Rich" taxes, or with the elimination of the Gold Standard, is a task for a Super-Genius or a Divine Mind, not for the mind of mortals. Enthusiasts about "forecasting and planning" may delude themselves and others into believing that they foresee and know really what the results of a given set of measures are going to be; but one should not confuse such self-delusion (as happens quite frequently) with real knowledge.⁴

The facts of history also offer endless evidence of the impossibility of any accurate knowledge of forthcoming events, especially in the more or less remote future, ten, twenty, or fifty years from the moment of planning. If somebody in 1914 had predicted a small part of the happenings since that time, he would have been branded as mad. And yet madder things have happened than were forecasted. With such surprises the cup of history is filled to the brim. If socio-cultural and historical processes were merely mechanical recurrences like the revolutions of a motor, forecasters and prognosticators, social planners and engineers would long ago have had a basis for their predictions, their *savoir pour prévoir*, and, for the

planning (with the prediction involved) rarely fails by 100 per cent. In part it usually comes true. P. S.

⁴ It may be asserted that prediction of the future of groups and organizations is easier than that of the future of individuals. A study of the duration and mortality of social organizations does not warrant this claim. When a social organization of any kind is started, it is started with the belief that it will endure and grow. Actually, the factual study of the life-span of social organizations shows a terrific mortality among them. Small economic organizations like drug and hardware stores live on the average about three years; the average duration of life of the largest economic and business corporations is around ten years, of the literary and cultural organizations of a local character in the United States around two to three years, and so on. Each case of the mortality of an organization is in a sense an evidence of wrong forecasting and therefore poor planning. See the actual data in P. A. Sorokin, "Life-Span, Age-Composition, and Mortality of Social Organizations," *Mensch en Maatschappij*, 9e Jaargang: 69-85, 1934. These and similar relevant data concerning the growth and decline, changes in structure, functions, and destiny of social organizations and groups fairly convincingly contradict the above claim.

planners, *prevoir pour pouvoir*, the knowledge from which to plan. But alas! if in the nineteenth century such a mechanistic conception of these processes had some credit, nowadays it has lost it almost entirely. If these socio-cultural processes are not absolutely new at any given moment but contain repeated elements, the recurrences are in any case ever-new variations on old themes. Therefore history has been and will probably continue to be rich in surprises which play havoc with all forecasting and plans, except for the few lucky ones who by chance happen to be right.

A further difficulty in the way of such forecasting is our inability at present to secure reliable knowledge about the causal or functional relationship between the processes which operate in any prediction. On what indeed can we rely in such prognostication? In the past men relied upon Pythian oracles, prophets and other persons or groups believed to possess clairvoyance with regard to the future either as a gift of God or of the devil. Viewed as emanating from a divine or supernatural source, this clairvoyance was considered unshakeable and perfectly certain. A variation of the method of prophecy was a set of magical and religious procedures — augury — which served a similar purpose and shared similar certainty. In some form or other such institutions have existed among all organized nations, and often have occupied an important place and performed fundamental functions. The case of Greece may serve as an example. Incidentally, all this indicates that social prognostication (forecasting) and planning are as old as human society. But our "scientific" prognosticators cannot and do not want to rely upon such supernatural bases in their forecasting. They declare themselves above such superstitions.

Another method of forecasting (and planning) in the past was that of astrology, a method which has not yet disappeared. It is true, for example, that in the form of the sunspot, climatic, sidereal and geographic theories of business-political, social-cultural fluctuations, astrology persists, since many of these theories differ little, if at all, from most of the best astrological theories of the past, such as those which Claudius Ptolemaeus

developed in his famous *Tetrabiblos*. However, most of the modern scientific forecasters have been critical of such theories and are unwilling to use them.

What then remains? Functional and causal study of the relationship of the societal variables? Very well. But how are such relationships, if they exist to be discovered? Through experiment? This is impossible in 99.99999 cases out of a hundred of complex social configurations. Inductively? But induction is possible only when all the variables involved remain constant and only the variable studied is changed by the experimenter. Such a situation rarely, if ever, obtains in fact in any configuration of important societal variables. The other conditions are almost never constant or equal. Some or all of them change incessantly. New factors are constantly appearing, others disappearing; in addition, the remaining ones fluctuate qualitatively and quantitatively. Under such conditions no really inductive method can be used, and in almost all cases no inference can be derived from a mere observation of the "facts" discovered by means of such "induction." Observation? But we know how unreliable it is for any generalization and formulation of uniformities. Statistical method? Coefficients of correlation and the like? If a few years ago, when such paraphernalia were a novelty, we believed in their mysterious power to detect functional and causal uniformities, nowadays only a few freshmen in scientific study and statistical method can persist in such a belief. We know that this "key" cannot be relied on to open the door to functional uniformities and causal relationships. If occasionally we seem to be successful, it is merely by a lucky chance, which occurs independently of the efficacy of our statistical apparatus.

To sum up, we do not have any certain and unshakeable basis or method. More than that, when we have even its simulacrum it gives at best something very relative, something which can be expected only under specific conditions, and even then only as a probable possibility, never as a certainty.

That these considerations are not far from the truth is indirectly corroborated by the following hypothetical reconstruc-

tion. We know that the institution of forecasting by oracles and prophets and augurers existed for centuries among many peoples, like the Greek and Romans. We know also that few important enterprises were undertaken, whether by rulers or other leaders of these societies, without preliminary consultations with these agencies. The very fact that such institutions persisted for centuries suggests that in their prognostication the percentage of right guesses could not have been unsatisfactorily small. Otherwise they would have been quickly discredited and then eliminated. At least, we have seen with our own eyes how quickly many of the supposedly scientific statistical agencies and publications for forecasting — especially in the field of business — were discredited after the crash of 1929 which sent all such prediction to the four winds. This suggests that perhaps the percentage of right *guesses* compared with wrong ones was rather higher in institutions like the Pythia of Delphi or the famous oracle of Apollo than in the contemporary predictions supposedly based firmly upon science. It also illustrates how unreliable our forecasting in the field of social phenomena may be, and how difficult it is to acquire a knowledge of the future direction of social processes.

Of the many other reasons that make it difficult to obtain adequate foreknowledge in these matters we shall mention only two more. One is what is styled the "principle of limit"⁵ in the relationship of two or more social variables. Even when the existence of some tangible association between two variables is more or less probable, we rarely, if ever, know the concrete values of each of these variables beyond which it disappears or even is reversed. This alone makes forecasting (and scientific planning) exceedingly difficult.

The second reason arises from what may be styled the multiplicity of results of certain social events and the consequent partial blindness of almost all social prognostication and planning. We grant that in several fields *a few results* of the introduction of a new invention or a reform in law or the modification

⁵ See P. A. Sorokin, "The Principle of Limits," *Publications of the American Sociological Society*, XXVI (1932), 19-27.

of some specific existing condition or other may be guessed properly: for example, the elimination of open saloons and liquor stores as a result of the prohibition law, the increasing velocity of travel as a result of the introduction of the automobile, and the like. However, in these, as in the larger part of such processes, many — and sometimes the most important — consequences are rarely, if ever, foreseen. Few prohibitionists could have predicted, at the moment of the passage of the Eighteenth Amendment, that one of its consequences would be the creation of a great bootlegging industry and the crystallization of the gang form of criminality. Likewise, it is impossible to foresee the dozens and even hundreds of consequences of one event, say of a certain invention. If out of the theoretically possible consequences of a given plan A, the effects B and C can sometimes be guessed rightly, the effects D, E, F, . . . n are in most cases not foreseen at all, and the total effect of these unforeseen consequences not infrequently turns out to be much more weighty than that of the foreseen B and C. The net result is a profound discrepancy between the expected and the actual effects.⁶

We have many cases of this class in the past as well as the present. The classical instance is offered by the Russian Communist Revolution. The initial predictive plan of the Communist Party, when it was fighting for power and at the beginning of its dictatorship, was that when the power was actually in its hands its dictatorship and its measures would lead to the following results, among many others: to a rapid improvement of the economic situation of the masses; to the abolition of capital punishment; to the increase of freedom; to world revolution. What were the actual results in these directions? Quite the opposite: horrible impoverishment and

⁶ This point should be stressed particularly strongly. Almost all forecasters and planners parade the few results which actually coincide with those planned; but they forget a host of the results that are neither planned nor expected, and yet actually occur. If and when these are considered, they give the reality quite a different appearance from what was planned and expected. In many cases, some objectives can be indeed realized; but their realization is followed by a legion of other consequences — unplanned and unforeseen — which change — and often radically — the situation mapped in the plan.

starvation; hundreds of thousands of persons executed (including almost all the important Communist leaders, who certainly did not expect execution by the Communist Party); elimination of freedom; and failure of the world revolution. The subsequent predictive planning of the Communist regime was manifested in the five- and ten-year plans. Parts of the objectives of these plans have to some extent certainly been carried through: heavy industry has been built up; farms have been collectivized; the family has been undermined; liberty of divorce has been established — all according to the plan, and often up to 90-95 per cent of the plan; in addition, other objectives have been realized which need not now be specified.

But side by side with these came a host of other results, unforeseen and unexpected, and these results have been so heavy in their import that they have wrecked the plans fundamentally. For example: neither the five-year plan nor the ten-year plan reckoned with the depreciation of Soviet money. And yet during the first three or four years of the five-year plan the Soviet rouble fell in purchasing power from a value of some forty to forty-five cents in 1928-29 to a value of three to five cents. The plans did not take into account the impoverishment of the masses which resulted, impoverishment to the point of mass-starvation, with its millions of deaths. And yet these terrible results occurred and the welfare of the masses fell to the lowest possible level; in 1933-34 alone from three to seven millions died by starvation. The plan did not anticipate that for the collectivization of farms it would be necessary to shoot and banish from two to four millions of the most industrious peasant families. And yet this happened. The plan did not foresee that from one-third to two-thirds of the farm cattle would be killed within the first year of the plan by the coercively collectivized peasants. And yet they were killed; and even now the number of cattle is rather below what it was before the collectivization. The planned Soviet reforms of the family did not foresee either the millions of girls and women whose lives were wrecked, or the ten to thirteen millions of wild urchins, hungry, cold, diseased, undisciplined, uneducated, running like

wild animals about the streets and in the country and perishing by thousands from the lack of all the necessities of life and of any care. And yet this happened. The plan did not take into account the enormous decline in the efficiency of work nor the enormous mobility and turnover of workers. And yet this happened. One of the results of the planning now, after nine years, is that even on a purely economic basis the standard of living of the masses is still rather lower than it was before the Communist revolution. On the basis of Soviet data the average real wage of the working man in 1934 was about twelve gold roubles or about six pre-Rooseveltian dollars a month, while before the Revolution it was between twenty-two and twenty-five gold roubles.

In brief, hundreds of unforeseen results have come about, results which are so weighty and so contrary to those expected that, in spite of the millions of lives sacrificed, in spite of the indescribable sufferings of millions, the prediction and plan are wrecked. If its expected objectives have been carried through along a few lines, in many more directions hosts of results have occurred which in their totality have made a caricature of the plan, a kind of tragic mockery. I mention this not for the purpose of blaming or praising the Communist experiment in planning—I leave this to the reader—but simply as a conspicuous case of the deviation of actual results from those predicted and planned. Such a deviation is unquestionable, and the few facts indicated are perfectly certain. Planned effects A and B were achieved; but together with them a crowd of other effects, C, D, F, . . . n, came unforeseen and uninvited.

With proper modifications the same can be said of most social planning on a large scale, both past and present, whether it be the NRA and AAA, the plans of the Italo-Abyssinian war of Mussolini, those of the Third Reich of Hitler, or those of the Townsends, Huey Longs, Technocrats, and other political or economic or scientific visionaries. If and when all the actual consequences of forecasting and a particular plan—A's and B's as well as D's and F's . . . and n's—are considered, I

do not know a single case, present or past, which has succeeded in even 50 or 60 per cent of its objectives, to say nothing achieving of complete success. And the larger the scale of the plan the greater has been the discrepancy between the actual and the expected results.

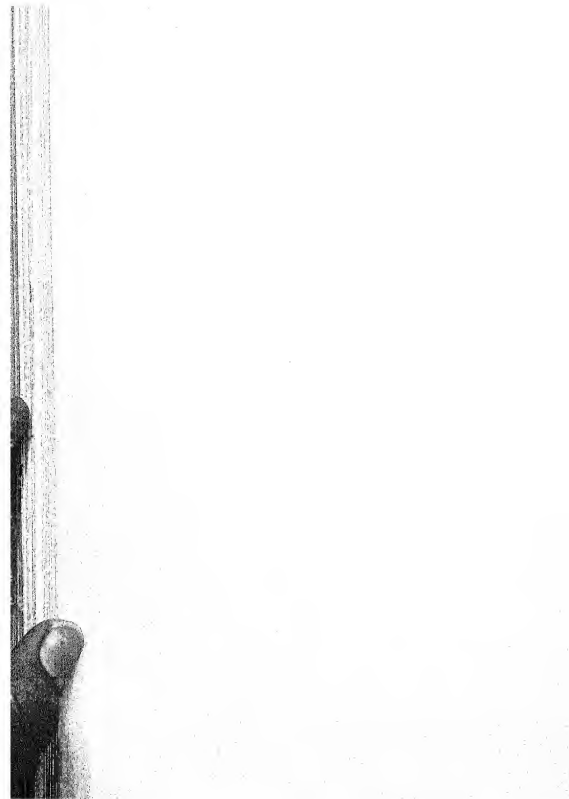
To sum up: since socio-cultural life changes incessantly, some foreknowledge and planning is unavoidable as an adaptive reaction to these changing conditions. In this sense foreknowledge and planning existed in the past, go on at the present, and will continue in the future. But from this unavoidable necessity it does not follow that any such scheming will be successful, or that with the passage of time the percentage of successful forecasts and planning (i.e., those in which the expected and the actual results coincide) will increase, or that they have become so much more "scientific" that we have a right to boast of our ability to forecast and control socio-cultural phenomena. At present, all such schemes remain as much guesswork and gambling as they were in the past. As guesses, given as such, they are not objectionable. But when a guess is presented as a tested scientific prediction, the result is a falsification injurious to those who advance it, to those who believe it, and to science itself.

To continue, we should be modest here and not claim more than is really possible. About certain social processes which we know well, we can venture predictions that apply to the immediate future. Such processes are mainly those which have been repeated many times and many times observed in this repetition, which are comparatively simple and well understood, and which go on in comparatively stable social and cultural conditions. But even in regard to such processes a great deal of study is still needed in order that we may know their nature and uniformities better. Even with this, any prediction must always contain several "ifs" to provide for the possible interference of an incidental but important factor which may change the nature of the uniformity in the course of the process. In regard to all other social and cultural processes, especially those that are rarely repeated in more or

less identical circumstances, or have been observed only a few times and under complex conditions, or display an enormous variability in their courses, there may be a guess — lucky or unlucky — but no real prediction. The most it is permissible to claim is a kind of conditional prediction, with a number of “ifs” — “if” such and such conditions persist, “if” such and such circumstances remain constant, “if” no extraordinary factor interferes, then with a reasonable degree of certainty one can expect a certain outcome. But prediction encumbered with so many “ifs” is practically of no utility.

These conclusions may appear to many, in this age of reckless “forecasting and planning,” too conservative and too pessimistic. And yet, when tested properly, they seem to be much nearer to reality than either the naïve or the oversophisticated phantasmagorias of contemporary social prognosticators and planners.

STATISTICAL APPENDIX



STATISTICAL APPENDIX

It is not possible, for reasons of space, to enumerate in detail the methods by which the individual schedules were coded so that the tabulating could be handled on a Hollerith machine. The details are available, however, on application to the authors. Suffice it to say here that the coding and sorting were centered about the 55 activity categories which form the main basis of the study.

The averages in the tables given in this appendix are in terms of the number of cases participating, or the number of schedules which list the activity in question, except for the averages in the last column of Table 1. These figures represent the average time spent daily on each activity by the whole group, and are derived by dividing the total time spent by *all* the schedules or cases. In this case the days on which no activity took place are counted as zero. The first type of average, used consistently throughout, is called the average "per day per participant" or "per person-day." It should be carefully distinguished from the second type of average; only in the case of sleep are the two averages the same.

Information as to the size of the sample and its constituent parts is given in Table A.

The following specific explanations of the manner in which various figures presented in the tables and the text were computed will, it is hoped, clarify the procedure and calculations.

I. *Average Time, Average Number of Periods, etc., Spent on Activities:*

1. *Number of Cases:* These figures, representing the total number of person-days listing participation in a given activity, were obtained by merely counting the number of cards punched for the given activity.
2. *Per cent of Cases Participating According to the Number of Periods:* These figures, which break the total number of person-days participating according to whether 1, 2, 3, 4, 5, 6,

7, 8, 9, or 10 or more periods were spent in the activity during a given day, were secured by sorting the cards according to the column in which the number of periods spent in the activity were listed. By dividing the total number of person-days participating into the number of person-days indicating each group of periods, the percentage of the total person-days indulging in 1, 2, etc., periods was secured.

3. *Total Time (Minutes)*: The total time spent per person-day in each activity has been punched. Sorting on the activity Personal Care, to cite an example, revealed a certain number of cases having spent 5 minutes, a certain number of cases 10 minutes, etc. The total time in minutes represents the multiplication of the five-minute unit by the number of cases falling within that category, repeating the same process for all other categories, and totalling the products.
4. *Average Number of Minutes Daily*: This figure was secured by dividing the total time in minutes by the total number of person-days participating.
5. *Average Number of Minutes Per Period*: The analysis according to the number of periods spent in a given activity daily was maintained throughout the study. Thus, it was simple to divide the average number of minutes daily for a given activity by the average number of periods daily for the activity, the resulting figure yielding the average number of minutes per period.

II. *Analyses According to Sex, Age, and Selected Days of the Week:*

1. *The Total Number of Cases*: Sorting on a given activity according to sex revealed the total number of cases participating for each sex.
 2. *Per cent of Males and Females*: This figure is secured by dividing the number of males and females participating in a given activity by the total number of males and females participating in the study, respectively.
 3. *Total Time (Minutes)*: This figure is secured by sorting the cards according to sex first, and then analyzing them according to length of time spent in each activity.
 4. *Average Number Minutes Daily*
 5. *Average Number Periods Daily*
 6. *Average Number Minutes Per Period*
- } Maintaining sex division, these figures are secured as in I.

III. *Analysis According to Reasons:*

1. *Number of Cases:* Each card among the "reason" series having been punched according to the reason given for each activity, the cards were sorted according to reasons for each given activity. This gave the total number of person-days that specified each reason for a given activity.
2. *Per cent of Total Cases:* This figure is secured by dividing the number of cases giving a certain reason for a given activity by the total number of person-days participating in that given activity.
3. *Total Time (Minutes):* As stated above, but maintaining the break-down according to reasons.
4. *Average Number of Minutes Daily:* As stated above, but maintaining the break-down according to reasons.

IV. *Analysis According to Size and Composition of Group:*

1. *Number of Cases:*
 - a. *Size of Group:* This figure is secured by sorting the cards according to the average size of the group with which each individual participated in a given activity during each day.
 - b. *Composition of Group:* The cards having been punched according to composition of group, they were merely sorted on this column.
2. *Per cent of Total Cases:* In both (a) and (b), division of the figures for the various sizes of the group and varying types of composition of the group participating in a given activity by the total number of person-days participating in the activity.
3. *Total Number Minutes*
4. *Average Number Minutes Daily*
5. *Average Number Periods Daily*
6. *Average Number Minutes Per Period*

The process by which these figures are secured is the same as that outlined above, maintaining the sorts according to size for (a), to composition for (b).

TABLE A
NUMBER OF SUBJECTS AND PERSON-DAYS ACCORDING TO SEX, AGE, AND DAY OF THE WEEK *

	B ACTIVITIES AND MOTIVATION SCHEDULES		C ACTIVITIES AND RELATIONSHIP SCHEDULES		TOTALS	
	Persons	Schedules	Persons	Schedules	Persons	Schedules
Sex						
Male	22	308	14	392	36	700
Female	81	1134	59	1638	140	2772
Totals	103	1442	73	2030	176	3472
Age						
17-20	36	504	23	630	59	1134
21-24	26	364	16	448	42	812
25-29	10	140	9	252	19	392
30-34	7	98	8	224	15	322
35-39	13	182	10	280	23	462
40-44	4	56	1	28	5	84
45-49	1	14	2	56	3	70
50 or more	5	70	4	112	9	182
Unknown	1	14			1	14
Totals	103	1442	73	2030	176	3472
Days						
Sunday	103	206	73	292	176	498
Tuesday	103	206	73	292	176	498
Saturday	103	206	73	292	176	498
Totals	103	618	73	876	176	1394

* In various activities, e.g., meals, personal care, etc., which may be considered as universal activities, it will be noted that not all of our person-days make listings. The variations are due to unknown factors (i.e., a suitable set of schedules may have one or two items which must be classified as unknown) or to the fact that during a few days of atypical behavior the activity was not actually indulged in.

TABLE 1

ACTIVITY	NUMBER OF CASES PARTICI- PATING	AVERAGE TIME SPENT DAILY (MINUTES)	AVERAGE NUMBER OF PERIODS DAILY	AVERAGE TIME PER PERIOD (MINUTES)	AVERAGE TIME (MIN.) DAILY FOR TOTAL GROUP
Sleep	3476	504.5	1.0	504.5	504.5
Personal Care	3414	77.7	3.5	22.2	76.0
Meals	3455	89.7	2.9	31.3	89.2
Walking II	2865	55.5	3.6	15.4	45.8
Transportation	2489	86.1	2.3	37.1	61.8
Auto-riding	431	174.5	1.3	133.6	21.7
Household (physical)	2494	106.5	2.5	42.8	76.5
Work	2160	332.2	1.9	177.1	206.7
Talking	1904	56.1	1.7	33.1	30.8
Radio	1172	77.8	1.3	61.5	26.3
Reading (magazines and papers)	1723	59.2	1.3	46.4	29.3
Active Arts and Crafts	42	140.7	1.2	118.2	1.7
Amusements	45	100.2	1.0	100.2	1.3
Attending Lectures	122	114.7	1.0	114.7	4.0
Cards	253	128.0	1.0	122.2	9.3
Ceremonies	22	108.6	1.2	91.9	0.7
Civic	5	96.0	1.0	96.0	0.1
Correspondence	181	51.9	1.1	48.2	2.7
Courting	89	77.0	1.2	65.2	2.0
Dancing	156	147.9	1.1	139.0	6.6
Entertaining	154	115.5	1.1	105.9	5.0
Errands	580	37.6	1.2	31.2	6.3
Exercise	52	14.0	1.2	12.2	0.2
Gardening	93	82.0	1.3	63.6	2.2
Health	107	91.4	1.2	78.2	2.8
Hobbies	71	31.7	1.2	26.5	0.6
Household (personal)	211	82.4	1.4	44.6	5.0
Idling	1005	62.9	1.3	48.4	18.2
Indoor Games	44	80.0	1.1	75.1	1.0
Men's Household	85	128.9	1.4	88.4	3.2
Miscellaneous	208	31.4	1.1	28.3	1.9
Musical Activities	86	59.8	1.2	50.9	1.5
Observing Games and Spectacles	163	141.4	1.1	129.5	6.6
Organized Indoor Sports ..	9	92.0	1.0	92.2	0.2
Organized Outdoor Sports ..	107	148.0	1.2	119.7	4.6
Phoning	168	17.8	1.2	14.6	0.9
Picnics	23	324.0	1.3	240.5	2.1
Playing	313	181.7	1.2	152.5	16.4
Playing with Children	68	47.4	1.1	42.4	0.9
Reading Books	515	97.1	1.2	83.2	14.4
Reading (unspecified)	314	88.4	1.1	77.5	8.0
Refreshments	599	26.0	1.1	24.9	4.6
Religious	710	40.8	1.3	30.7	8.3
School	3	123.3	1.0	123.3	0.1
Shopping	750	74.1	1.1	66.6	16.0
Smoking	386	15.3	1.5	10.1	1.7
Social	67	160.7	1.1	141.7	3.1
Study	66	140.0	1.5	93.3	2.7
Theatre	403	186.7	1.0	183.5	21.7
Unknown	73	83.2	1.1	76.8	1.7
Unorganized Outdoor Play ..	45	118.0	1.0	115.7	1.5
Visiting	579	127.7	1.1	116.3	21.0
Walking (pleasure)	848	93.0	1.1	83.5	22.2
With Family	43	114.7	1.0	114.7	1.4
Women's Indoor	196	85.4	1.2	73.4	4.8

TABLE 2
PERCENTAGE OF TOTAL NUMBER OF CASES PARTICIPATING IN EACH ACTIVITY ACCORDING TO MOTIVATION *

	NOT GIVEN AND NOT CLASSIFIABLE	SOCIAL	CUSTOM	MORAL	PERSONAL	HABIT	TO FILL TIME	DESIRE FOR NEW EXPERIENCE	PHYSICAL	ECONOMIC	FORCE OF CIRCUMSTANCES	PREPARATORY AND CONSUMATORY
Sleep	8.4	..	0.1	..	2.9	2.2	0.1	..	6.9	..	3.3	0.1
Personal Care	1.6	0.3	3.6	0.1	63.4	18.7	0.1	..	6.9	..	1.9	2.9
Meals	1.3	2.9	0.4	0.1	4.5	27.3	1.5	..	38.9	..	2.5	..
Walking II	10.3	9.2	0.1	0.1	8.0	4.5	1.9	0.2	10.5	3.0	11.6	40.6
Transportation	11.6	8.0	..	0.1	4.3	4.1	1.7	..	1.8	0.9	14.8	52.7
Auto-riding	9.0	4.2	..	..	65.7	2.4	4.1	..	8.4	..	1.8	4.1
Household (physical)	3.6	..	..	0.9	11.5	10.9	0.4	..	9.1	0.2	8.3	4.0
Work	12.1	1.8	0.3	2.5	1.3	4.7	..	0.1	..	10.8	65.3	0.9
Talking	11.6	25.3	0.4	0.5	22.0	4.1	31.7	0.4	1.8	..	1.3	1.3
Radio	2.6	0.4	..	0.2	59.1	0.6	21.0	7.3	5.7	..	0.2	..
Reading	1.3	0.7	0.1	..	28.2	7.9	16.4	39.9	4.8	..	0.4	0.1
Active Arts and Crafts	35.7	7.1	..	..	35.7	..	7.1	..	..	..	..	14.3
Amusements .....	..	12.5	..	..	87.5	..	..	..	..	..	..	..
Attending Lectures	25.0	5.0	..	..	70.0	..	..	..	..	..	..	..
Cards	5.3	15.7	..	..	57.9	1.7	16.5	..	2.5	..	..	..
Correspondence	14.3	40.7	1.2	3.7	11.1	..	..	7.4	1.2	..	17.3	2.5
Ceremonies	50.0	31.3	12.5	..	..	6.3	..	..	..	..	..	..
Courtship	15.2	10.9	2.3	..	34.8	13.0	13.0	2.2	6.5	..	2.2	..
Dancing	1.9	5.8	1.9	..	86.5	3.8	..	..	..	..	..	..
Entertaining	25.3	37.1	..	1.6	22.6	1.6	6.5	..	1.6	..	1.6	1.6
Errands	16.2	36.6	..	2.9	5.8	4.4	..	..	..	8.8	18.4	7.4
Exercise .....	..	..	..	..	..	69.2	..	..	..	..	..	..
Gardening	3.6	7.1	..	..	33.9	..	3.6	1.8	32.1	..	12.5	5.4

* Only one motive considered.

Health	25.5	2.0	..	..	2.0	..	..	..	..	47.1	..	19.6	3.9
Hobbies .....	..	2.0	..	..	14.3	2.0	..	..	..	61.2	..	10.2	..
Household (personal)	8.5	61.1	..	..	1.8	1.8	1.8	0.9	..	7.1	..	6.2	8.5
Idling	12.1	4.5	..	..	8.1	2.5	..	..	..	52.4	1.3	6.5	3.4
Indoor Games	4.0	..	..	..	64.0	..	..	..	..	8.0	..	..	..
Men's Household	17.0	14.9	..	..	23.4	2.1	..	..	..	12.3	..	21.3	8.5
Miscellaneous	3.4	4.2	..	0.8	4.2	3.4	2.5	2.5	..	..	0.8	55.0	20.2
Musical	2.2	6.7	..	..	64.4	..	..	6.7	..	..	..	13.3	6.7
Observing Games and													
Spectacles	9.5	4.1	..	..	68.9	..	..	6.8	..	5.4	..	2.7	2.7
Organized Indoor Sports ..	..	25.0	..	..	75.0	..	..	..	..	..	..	..	..
Organized Outdoor Sports ..	3.6	..	..	..	64.3	..	..	1.8	..	30.4	..	..	..
Phoning	17.8	64.4	..	..	2.2	1.1	2.2	3.3	..	..	..	3.3	5.6
Play	16.0	2.5	..	..	56.8	..	..	4.9	..	17.3	..	..	2.5
Playing with Children .....	..	51.1	..	..	19.1	21.3	6.4	..	..	2.1	..	..	..
Picnics	16.7	16.7	..	..	90.0	..	..	16.7	..	..	..	..	..
Reading Books	5.4	0.4	..	0.8	57.7	0.8	..	17.8	3.7	10.8	..	..	2.5
Reading (unspecified)	4.7	2.3	..	..	43.0	2.3	..	24.1	8.1	15.1	..	..	..
Refreshments	8.2	6.0	..	..	20.7	5.2	..	5.6	..	32.6	..	1.3	0.4
Religious	13.8	0.4	1.4	42.2	5.0	33.3	..	0.4	1.8	0.4	..	0.4	1.1
School	33.3	..	..	..	33.3	..	..	..	33.3	..	..	..	..
Shopping	27.5	11.9	..	..	5.6	1.3	1.8	1.8	1.5	1.5	0.8	19.4	28.5
Smoking	3.6	5.5	..	..	40.0	8.5	28.5	..	..	13.9	..	..	..
Social	17.6	23.5	..	..	50.0	2.9	..	..	..	..	..	2.9	1.9
Study .....	..	..	..	12.5	22.5	..	..	..	..	..	2.5	2.5	50.0
Theatre	18.0	1.8	..	..	67.1	2.4	7.2	0.6	2.4	..	..	..	0.6
Unknown	56.3	6.3	..	..	25.0	..	..	6.3	6.3	..	..	..	..
Unorganized Outdoor Play ..	..	..	..	..	73.3	..	..	..	..	26.7	..	..	..
Visiting	21.3	47.6	..	..	20.0	0.9	5.8	..	..	2.2	..	1.8	6.4
Walking (pleasure)	7.6	5.7	21.1	1.6	8.6	1.0	..	52.1	..	0.5	1.8
With Family	50.0	50.0
Women's Indoor	10.1	7.6	21.5	5.1	..	1.3	1.3	36.7	16.5



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TABLE 4
PERCENTAGE OF TOTAL NUMBER OF CASES PARTICIPATING IN EACH ACTIVITY
ACCORDING TO RELATIONSHIP OF OTHER PEOPLE INVOLVED

ACTIVITY	BUSINESS ASSOCIATE	CASUAL AC- QUAINTANCE	FAMILY	FRIEND	NEIGHBOR	NONE	RELATIVE	STRANGER	UNKNOWN
Sleep .....	..	..	..	..	..	..	..	..	..
Personal Care	1.6	0.1	0.0	2.3	0.1	99.4	0.3	0.1	0.6
Meals	39.3	0.3	85.6	18.5	0.8	48.1	8.7	0.3	0.8
Walking II	54.2	0.1	16.6	35.5	2.8	71.3	3.1	0.4	1.1
Transportation	26.1	0.5	11.7	35.4	1.4	71.1	2.5	0.7	1.5
Auto-riding .....	..	..	16.8	93.9	1.3	1.9	9.9	..	0.8
Household (physical)	0.3	0.2	53.5	6.3	..	70.3	3.5	0.2	0.6
Work	94.3	0.3	0.6	0.8	0.3	7.3	0.1	0.2	1.0
Talk	40.6	0.9	43.3	44.7	2.4	..	8.2	1.3	0.7
Radio	0.6	0.2	52.7	18.5	1.3	37.5	7.4	0.8	0.8
Reading (magazines and papers)	2.2	..	24.7	3.4	..	75.8	1.3	..	..
Active Arts and Crafts	3.6	..	..	10.7	..	85.7	..	..	..
Amusements	2.8	..	13.9	66.6	..	16.7	8.3	..	..
Attending Lectures	2.0	1.0	18.8	63.4	..	21.8	1.0	..	1.0
Clubs	1.4	..	49.0	39.3	2.3	1.5	8.4	..	..
Ceremonies	10.7	..	33.3	83.3	..	..	..	..	..
Civic	23.0	25.0	25.0	25.0	..	..	..	..	..
Correspondence .....	..	..	2.0	1.0	..	96.0	1.0	..	..
Courting	2.3	..	..	97.7	..	..	..	..	..
Dancing .....	..	1.9	3.9	95.2	..	..	3.9	..	1.0
Entertaining .....	..	2.2	31.5	94.3	3.3	..	10.9	..	..
Errands	13.4	0.5	8.1	11.9	0.3	75.9	1.3	0.2	0.9
Exercise .....	..	..	2.7	5.4	..	91.9	..	..	..
Gardening .....	..	..	27.7	..	2.7	69.5	..	..	2.7

Health	40.0	18.2	5.5	7.3	30.9	..	..	..
Hobby .....	..	..	..	9.1	90.0	..	..	..
Household (personal)	1.1	..	88.4	7.4	2.1	12.6	..	..
Idling	17.8	..	9.7	63.2	61.6	0.3	0.2	0.7
Indoor Games	5.3	..	36.9	..	5.3	..	..	..
Men's Household	2.6	..	28.9	13.2	57.9	..	2.6	..
Miscellaneous	3.4	..	6.8	4.5	86.5	..	..	..
Musical Activities	4.9	..	17.1	14.7	70.7	..	..	..
Observing Games and Spectacles	1.1	..	24.7	74.2	7.9	..	..	..
Organised Indoor Sports .....	..	..	..	100.0	..	..	..	..
Organised Outdoor Sports .....	..	2.0	34.0	80.0	8.0	..	..	..
Phoning	2.6	..	7.7	75.6	..	..	..	6.4
Picnic .....	..	..	25.0	75.0	..	..	..	..
Play	0.4	..	24.3	82.3	9.1	4.3	0.4	..
Playing with Children .....	..	..	61.0	27.8	..	22.2	..	..
Reading Book	0.8	..	9.1	2.5	88.3	..	..	..
Reading (unspecified) .....	..	..	18.9	3.1	75.9	1.8	..	3.5
Refrainments .....	..	0.6	25.1	63.2	11.7	3.0	0.3	0.6
Religious	1.9	0.3	16.9	12.2	67.5	2.3	..	0.2
School .....	..	..	..	..	..	..	..	..
Shopping .....	..	2.0	17.9	18.5	56.3	0.9	..	1.4
Smoke	16.0	..	48.8	45.2	17.8	3.2	..	..
Social	39.3	..	18.2	66.6	..	..	..	..
Study .....	..	..	3.9	7.7	84.6	..	..	..
Theatre	0.9	..	13.5	72.4	13.1	1.7	..	2.6
Unknown	5.3	..	12.3	8.8	52.6	..	..	24.5
Unorganised Outdoor Play .....	..	..	26.6	80.0	..	..	..	..
Visiting	1.7	1.4	21.8	72.9	..	11.9	0.3	1.7
Walking I	44.9	..	16.2	56.1	13.2	5.6
With Family	2.4	..	97.6	12.3	..	2.4
Women's Indoor	0.9	..	25.5	6.0	62.9	3.1	..	0.9



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